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An Evaluation of a Worksite Health Promotion Program for Air Traffic Controllers

By

Yvette Penman ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Master of Education in

Adult and Higher Education

Department of Adult, Career and Technology Education

Edmonton, Alberta

Spring, 1995

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled **An Evaluation of a Worksite Health Promotion Program for Air Traffic Controllers** submitted by **Yvette Penman** in partial fulfillment of the requirements for the degree of Master of Education in **Adult and Higher Education.**

D.J. Collett

A.K. Deane

D. Wertenberger

April 3, 1995

Abstract

In 1988, the Air Traffic Controller Occupational Health (ATCOH) program was implemented as a result of lifestyle related license losses of Canadian Air Traffic Controllers. The purpose of this research was to conduct an evaluation of the Western Region Air Traffic Controller Occupational Health program.

An evaluation questionnaire focusing on the Air Traffic Controllers' demographic data, participation, satisfaction level, perceptions regarding the benefits and suggestions for program improvements was distributed in October, 1994. In December, 1994, 37.2 % (n = 94) of the surveys had been returned.

Data from the evaluation questionnaires were analyzed using SPSS (Statistics Package for Social Sciences) and thematic analysis. Information from both closed and open ended questions was reported according to the research sub-questions outlined and the antecedant, transaction and outcome information from Stake's (1967) model of evaluation.

Questionnaire results indicated that the majority of the Western Region Air Traffic Controllers are males, over the age of thirty five who have worked in the Air Traffic Control field for over sixteen years. While all but two percent of the respondents were aware of the ATCOH program, eighty percent (n = 75) indicated that they had participated in it's services.

Reasons for, and for not, participating in the ATCOH program were outlined and commonly utilized services listed. The most common suggestions made were for the ATCOH program to continue offering a wide variety of lifestyle sessions, to

look into group membership rates at local community fitness facilities and to increase access to fitness programs.

The respondents were very pleased with the quality of ATCOH program staff and resources and the results of the evaluation questionnaire strongly indicate that the Air Traffic Controllers' awareness, and application of, healthy living strategies have increased as a result of the Air Traffic Controller Occupational Health program. The influence of the Air Traffic Controller Occupational Health program on the workplace was also positively rated.

There is a probability that the findings of the ATCOH program evaluation are representative of the views of the Air Traffic Controllers in the Western Region because of the similarity in the demographics of the respondents and those provided by Air Traffic Services although the findings can not be generalized to other regions.

Two forms of recommendations are made as a result of the ATCOH program evaluation: recommendations to ATCOH staff and recommendations for further research.

Dedication

This thesis is dedicated to my parents, Bev and Carol, for their continued support, love and sense of humor. In addition, I would like to dedicate this work to my grandparents, John and Eleanor Penman and Bill and Doris Large for their love and development of strong family values.

Acknowledgments

In the following I would like to recognize the involvement of a number of important and special people.

A special thank you to Dr. Dave Collett for his continual support and guidance. Dr. Collett's thoughtful comments provided me with endless motivation and his actions and words always depicted his respect and knowledge of educational process.

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Many thanks to the people from Transport Canada who made this evaluation possible and to Elaine Meighen who's sense of humor, support and friendship never falter.

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Chapter I

Overview of the Problem

Introduction

Since the mid-1970's, interest and participation in workplace health promotion programs has drastically increased in North America. The initial focus of many of the worksite programs was on brief aerobic exercise sessions. More recently, however, the emphasis is on a combination of fitness, health promotion and health education activities such as nutrition, smoking, back care and stress management (Shephard, 1991). Evaluation studies indicate that there is strong evidence that fitness and health promotion programs can contribute to employee health and wellbeing having a positive impact on the workplace environment (Shephard, 1991).

Worksite and occupational health programs for federal public servants in Canada are operated, administered and supervised by Health and Welfare Canada. However, because of a different set of occupational requirements, some federal employees do not fit under the auspices of the usual standards. Air Traffic Controllers fall into this category primarily because of licensing idiosyncrasies.

Background to the Problem

In 1988, fourteen of the twenty Air Traffic Controller licenses that were lost in Canada were a result of lifestyle related health issues such as cardiovascular disease (Air Traffic Controller Occupational Health Program Document, 1994). Occupational licensing requirements made it impossible for Health and Welfare Canada to administer and supervise health promotion programs for this particular group of federal public servants.

Transport Canada, in recognizing the importance of a positive long term approach to health for Air Traffic Controllers, responded by calling for proposals offering health promotion services in five regions across Canada. The proposals that were accepted were those that offered comprehensive health promotion services. In the Western Region (Alberta, the Northwest Territories and the Yukon Territories), a Lifestyle Consultant offers health related programs and services to Air Traffic Controllers.

The contract is such that a minimum of two site visits are made annually to each of eleven locations. Sites within the Western Region include the Area Control Centre in Edmonton and Tower Control Units at the following airports; Calgary, Edmonton International, Edmonton Municipal, Fort McMurray, Grande Prairie, Lethbridge, Springbank, Villeneuve, Whitehorse and Yellowknife. In addition, a monthly newsletter outlining health and lifestyle information and the latest health related research is distributed to all Air Traffic Controllers employed in the region.

The Air Traffic Controller Occupational Health (ATCOH) program focuses on lifestyle factors that have been identified as negatively impacting the health of Air Traffic Controllers. The purpose of the occupational health program is to

encourage and enable the Air Traffic Controllers to assume responsibility for their own health, improve their own lifestyle and ultimately function at a higher level on the job. In Appendix A, goals of the ATCOH program are outlined.

The office of the Lifestyle Consultant is based at the Area Control Centre at Edmonton's International Airport. Health related resources are available and disseminated from this office. In order to effectively communicate with the outlying towers, memoranda and telephone mediums are utilized.

Individual program evaluations and participant feedback have indicated general satisfaction with the services offered by the ATCOH program and in 1990, a user feedback questionnaire was distributed to Air Traffic Controllers across Canada. Due to the number of changes that have been made to the program in the past four years, it has been recognized by Regional and National program staff that a more formal and comprehensive evaluation would be useful in providing feedback to, and evaluating the Air Traffic Controller Occupational Health (ATCOH) program.

Problem Statement

The central problem in this study was that the Western Region Air Traffic Controller Occupational Health Program had never been formally evaluated. The researcher attempted to collect information about the background of the Air Traffic Controllers and to evaluate whether the ATCOH program had increased the Air Traffic Controllers understanding, and application, of healthier living strategies. Emphasis was placed on the Air Traffic Controllers' participation, satisfaction level, perceptions regarding the benefits of the health promotion program and suggestions for program improvements.

Research Problem Questions

Stake's model was applied in the evaluation of the Air Traffic Controller Occupational Health (ATCOH) program. Theorist Robert E. Stake distinguishes between antecedent, transaction and outcome information for the purpose of evaluating educational activities (Stake, in Worthen, 1973). Nine questions were formulated around Stake's evaluation model in order to address the central research question. Questions 1, 2 and 4 relate to antecedent information while questions 3 and 5 relate to transactional information.

1. What are the demographic profiles of the Air Traffic Controllers for whom the ATCOH program exists, and how has the profile changed since the 1990 user feedback questionnaire?

2. What is the participation level of the Air Traffic Controllers?

3. What ATCOH services have been utilized by the Air Traffic Controllers?

4. For what reasons do the Air Traffic Controllers participate in the Air Traffic Controller Occupational Health program?

5. What additional services and resources would the Air Traffic Controllers identify as useful?

Questions 6 to 9 relate to outcome information.

6. In what ways are the Air Traffic Controllers satisfied/dissatisfied with the Air Traffic Controller Occupational Health program?

7. According to the Air Traffic Controllers, how has their awareness of healthy lifestyle behaviors increased as a result of the Air Traffic Controller Occupational Health program?

8. According to the Air Traffic Controllers, what changes have they made in their lifestyle as a result of the Air Traffic Controller Occupational Health program?

9. According to the Air Traffic Controllers, what are the strengths and weaknesses of the ATCOH program and what could be done to better meet their health and lifestyle needs?

Assumptions

It was assumed that the Air Traffic Controllers in the Western Region (Alberta, the Northwest Territories and the Yukon Territories) cooperated in answering the evaluation questionnaires as fully, honestly and accurately as possible.

Delimitations

The following delimitations influence the degree to which the findings of the present study can be generalized to Air Traffic Controllers and other participants in workplace health promotion programs.

1. This evaluation study was delimited to Air Traffic Controllers presently employed in the Western Region and therefore, may not apply to, or reflect the needs of, Air Traffic Controllers in other regions.

2. The population was specific to the Western Region Air Traffic Controller Occupational Health program therefore, may not be generalized to other workplace health promotion programs.

Limitations

The self reporting nature of the research may limit the results of the survey. Kellerman, Felts, and Chenier (1992) and Bertera (1991) have commented that the results of their questionnaire may not have been true as the respondents may have over rated or under rated their level of behavior change.

The results of this research study are also limited by a response rate of thirty seven percent. From the two hundred fifty three questionnaires distributed in the Western Region a total of ninety four usable questionnaires were returned. As demonstrated in the methodologies chapter, twenty Air Traffic Controllers were randomly selected from the one hundred fifty nine non respondents in order to compare a number of the survey responses and the demographic data. The researcher had contacted five Air Traffic Controllers when the Western Region Union Manager requested that the phone calls be discontinued as a result of an Air Traffic Controllers' concern for anonymity. The data are also limited by the Air Traffic Controllers' ability to recall relevant information.

Significance of the Study

Recently, there has been an increased understanding of the relationship between lifestyle risk factors and health. In addition, the workplace has been identified as having potential for promoting healthy living. Since the mid 1970's

worksite health promotion programs have grown tremendously in North America (Erfurt, Foote, and Heirich, 1991; Kizer, Folkers, Felten, and Neimeyer, 1992; Stewart, 1990/91; Pencak, 1991; Shi, 1992; Wolfe, Slack, and Rose-Hearn, 1993).

The increase in the implementation of health promotion programs, along with the economic climate at a number of worksites, has forced managers of corporations, industries and government departments to make inquires into the effectiveness of workbased health promotion programs. Administrative staff are asking for verification that the money they are investing in employee health programs is worthwhile. Murphy, Gasparotto and Opatz (in Opatz, 1987, p. 1) state that

> The time for blind acceptance of health promotion's efficacy has passed. Some programs which had forgone evaluation of their programs in favor of investing those dollars in program activities are in deep trouble. Corporate executives, perhaps new to the organization, are asking for data to support the continuation of longstanding and in some cases very expensive programs.

The development of the Air Traffic Controller Occupational Health Program was in response to licenses lost as a result of lifestyle related health problems of Canadian Air Traffic Controllers. The ATCOH program in the Western Region has been offering health and lifestyle services to Air Traffic Controllers for approximately six years. Participant evaluations have indicated general satisfaction with the services offered by the ATCOH program and a user questionnaire provided some feedback just over four years ago. Due to the number of changes that have been instituted since the 1990 user feedback

questionnaire, ATCOH program staff have identified that a more formal and comprehensive evaluation would be useful in providing feedback to, and evaluating the programs and services, of the Air Traffic Controller Occupational Health (ATCOH) program.

The evaluation questionnaire designed for this research study was utilized to evaluate the services and the effectiveness of the ATCOH program in increasing awareness and promoting healthy lifestyles among Air Traffic Controllers. An evaluation and analysis of the program could contribute to the development, content and format of future resources and workshops for Air Traffic Controllers in the Western Region. The information gathered may also enable the ATCOH program to more adequately address the needs of the participants in future program planning and initiatives so as to best meet the comprehensive health needs and interests of the Air Traffic Controllers.

In order to assess the impact of the health promotion programs and services of the Air Traffic Controller Occupational Health (ATCOH) program, it was necessary to attain feedback from the participants, the Air Traffic Controllers. As a result, the evaluation questionnaire was distributed to all Air Traffic Controllers employed at the Edmonton International Area Control Centre and the Tower Control Units at the following airports; Calgary, Edmonton International, Edmonton Municipal, Fort McMurray, Grande Prairie, Lethbridge, Springbank, Villeneuve, Whitehorse and Yellowknife.

This study provides information about the impact of the Air Traffic Controller Occupational Health (ATCOH) program in the Western Region. Information was gathered with regards to the effectiveness of the present workplace health promotion program in promoting healthy lifestyles and

supporting lifestyle related behavior changes in Air Traffic Controllers. The data gathered is used to suggest changes to the current health promotion program.

Definition of Terms

Terminology that is commonly utilized in the worksite health promotion field is outlined below to ensure clarity:

Health — Health is described by Dooner (1990/91) as being a ". . . resource for everyday living, and as something that is profoundly influenced by environmental factors." As health relates to the workplace, Stewart (1990/91, p. 10) describes it as ". . . the protection of workers' physical health and safety, crisis intervention. . .provision of personal assistance. . . preventative orientation toward ensuring that employees achieve optimal well-being."

Health Education — Health education is that which ". . . uses a variety of methods to help people understand their own situations and choose actions that will improve their health" (World Health Organization, 1988).

Health Promotion — Health promotion is the ". . . process of enabling people to increase control over, and improve, their health and the factors which influence their health" (Health and Welfare Canada, 1990). It is a combination of ". . . educational, organizational, and environmental activities designed to support behavior conducive to the good health and well-being of employees. . . " (Kizer, Folkers, Felten, and Neimeyer, 1992, p. 124).

Workplace Health Promotion — Workplace health promotion ". . . directs us to actions which are aimed not only at changes in work environment and organization, but also at changes that enable individuals to improve their health" (Anderson, 1990/91, p. 13).

Workplace Health Promotion Programs — Workplace health promotion programs are ". . . ongoing organizational activities designed to promote the adoption of personal behavior and organizational practices conducive to maintaining and/or improving employee physiological, mental, or social well-being" (Wolfe, Slack and Rose-Hearn, 1993, p. 190).

Lifestyle — Lifestyle is the ". . . culturally, socially, economically, and environmentally conditioned complex of actions characteristic of an individual, group, or community as a pattern of habituated behavior over time that is health-related but not necessarily health-directed" (Green and Kreuter, 1991).

Health Promoting Lifestyle — A health promoting lifestyle is seen as a ". . . multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualization and fulfillment of the individual" (Pender, Walker, Sechrist, and Frank-Stromberg, 1990, p. 326).

Thesis Organization

This thesis is divided into five chapters. The introductory chapter includes the information presented thus far. Chapter 2 outlines a review of the literature related to workplace health promotion. The research instrument and

methodology are described in Chapter 3. Results of the study are presented in Chapter 4 and the final chapter summarizes and discusses the findings and outlines recommendations for further research in the area of workplace health promotion.

Chapter II

Review of Related Literature

Introduction

The central focus of this study was to evaluate the Western Region Air Traffic Controller Occupational Health Program. The goal of the research was to collect information about the background of the Air Traffic Controllers and to evaluate whether the ATCOH program increases the understanding and application of healthier living strategies. Emphasis has been placed on the Air Traffic Controllers' participation, satisfaction level, perceptions regarding the benefits of the health promotion program and suggestions for program improvements.

The results will be utilized to provide feedback to ATCOH program staff and to adapt the program to best meet the needs of the clients, the Air Traffic Controllers in the Western Region. The literature review for this evaluation includes the following topic areas: history of workplace health promotion programs, participation in workplace health promotion programs, reasons for health promotion at the workplace, perceived benefits and levels of health promotion programs.

History of Workplace Health Promotion

Worksite health promotion is not a new concept. Concerns about the wellbeing of employees has been documented as early as the 1600's. The focus of workplace health promotion has shifted over the years however, what remains is that many employers have taken into consideration the quality of life of their employees.

According to Shepherd (1991, p. 436), Bernadino Ramazzini, an Italian physician, is the ". . . originator of modern concepts of both occupational fitness and health promotion." Ramazzini observed the poor physique of the cobblers and tailors of the 17th century trade guilds as they slouched over their work in poorly lit areas. Ramazzini quoted from the oracles of Hippocrates "It is more dangerous to change from idleness to work than from work to idleness" (Shepherd, 1991, p. 437). Because of his observations and thoughts, Ramazzini has been identified as the first person to consider the role of health as it relates to work.

During the Industrial revolution, many employers were solely concerned about profits and little thought was given to the health of employees. Often men, women and children worked fourteen to fifteen hours per day (Shepherd, 1991). Welsh social reformer, Robert Owen, dreamed of model factories and cooperative efforts and although his work failed at the time, Owen's ideas survived throughout the British cooperative movement.

During the 19th century, a number of employers took a strong interest in the well-being of workers and it was in 1847 when Anthony Ashley Cooper, the Seventh Earl of Shaftesbury, introduced legislation which limited the duration of a work day to ten hours (Shepherd, 1991).

In Victorian England Cadbury, Fry and Rowntree, attempted to improve conditions for their employees. These cocoa and chocolate manufacturers, ". . . recognized that it made good business sense to have employees who were well housed, healthy, and fit" (Shephard, 1991, p. 437). Cadbury, Fry and Rowntree provided their employees with model villages including good accommodation, parks, sports grounds, healthy working conditions and private security systems (Shephard, 1991). Similarly, W.H. Lever, the owner of a soap works business, provided a model town in Port Sunlight which included medical care, housing and recreation facilities (Shephard, 1991).

Across the Atlantic, in North America, the Kellogg family, owners of a vegetarian food and cereal company, developed a fitness program specifically for their employees. As well, in Illinois, a railroad entrepreneur, George Pullman, developed a model town for his employees which encompassed both playgrounds and athletic facilities (Shephard, 1991).

A number of organizations became interested in, and studied, the effects of the working environment on employees during the early 1900's. For example, the Industrial Fatigue Research Board was developed in Britain to assess occupational settings. After the first world war was over, this board ". . . continued to monitor a wide range of practical issues of industrial hygiene, including posture, load carriage, physique, rest pauses, lighting, heating, ventilation, and music at the worksite" (Shephard, 1991, p. 438).

In the early 1920's, doctors, who specialized in worker health, were trained at the London School of Hygiene, the School of Hygiene in Toronto and the Schools of Public Health in the United States. As well, the Fatigue Laboratory at

the Harvard School of Business began to assess fatigue as it related to workplace physical and psychological stressors (Shephard, 1991).

Lighter manufacturing eventually gained popularity and employers became less likely to demand long working days and more likely to provide opportunities for employee activity. It was at this time that, ". . . the more enlightened efficiency experts began to recognize that a person could not continue to function as a robot for 8 hr per day. . . it was important to allow appropriate relaxation. . . " (Shephard, 1991, p. 439).

In the mid 1950's an association between low levels of work-related activity, due to automation, and heart disease was discovered and because of the unsuccessful promotion of exercise in the community, the worksite was identified as being most appropriate for the promotion of fitness related programs (Shephard, 1991).

In the early 1970's, the Canadian government introduced workbased fitness programs with shower facilities ". . . to encourage employees to walk or cycle to work" (Shephard, 1991, p. 442). At the same time, North American oil companies were in competition with their Asian counterparts. Curiosity about the relationship between workplace fitness promotion and the productivity of Asian workers rose. The benefits of relaxation and fitness breaks were discovered in the 1970's and soon after, Fitness Canada encouraged companies to develop employee fitness breaks (Shephard, 1991). The hope of Fitness Canada was that ". . . such behavior would carry over into the worker's leisure time" (Shephard, 1991, p. 440).

Governments, industries and businesses view worksite health promotion as an effective way of reversing health problems (Shephard, 1991). Cost analysis studies have shown that

> . . . a high level of productivity is currently as much a function of advanced technology as of human input, and the emphasis of worksite fitness and health promotional programs has shifted from an augmentation of productivity to an improvement of health (Shephard, 1991, p. 442).

Presently, the focus of worksite health promotion programs is to consider the needs of employees and to have individuals from a variety of backgrounds work closely together to address them (Dooner, 1990/91). Shepherd (1991, p. 436) stresses the fact that ". . . unifocal fitness programs are being replaced by modular health programs that address a wide range of lifestyle issues, including nutrition, stress relaxation, cigarette addiction, and drug abuse."

In order to maintain employees' health and to curb rising health care costs, a substantial number of organizations have taken the initiative to develop or purchase health promotion programs. In fact, Wellness Councils of America state that more than sixty six percent of businesses with more than fifty employees have some form of health promotion program in place (Kizer, Folkers, Felten and Neimeyer, 1992; Bailey, 1990). In a more local sense, Sefton, Mummery and Johnson (1992) found that fifty six percent of Alberta companies offer at least one form of encouragement for their employees to participate in physical activity.

Canadian Air Traffic Controllers are presently provided with worksite health promotion programs and services. Motivation to provide these services is associated with the 1988 Air Traffic Controller lifestyle related license losses. In recognizing the need for health promotion activities, and the inability of Health and Welfare Canada to administer such a program for Air Traffic Controllers, Transport Canada contracts out occupational health services in five regions across Canada.

In the Western Region (Alberta, the Northwest Territories and the Yukon Territories), a Lifestyle Consultant offers health related services encompassing lifestyle factors that have been identified as negatively impacting the health of Air Traffic Controllers. The purpose of the Air Traffic Control Occupational Health program is to encourage and enable the Air Traffic Controllers to assume responsibility for their own health, improve their own lifestyle and ultimately function at a higher level on the job (Air Traffic Controller Occupational Health Program, 1994).

Participation in Workplace Health Promotion Programs

Workplace health promotion programs often expect results such as decreased absenteeism and increased morale, job satisfaction and employee productivity. The potential impact of worksite health promotion programs, however, greatly depends upon employee participation. Several studies have looked at the demographics of participants in health promotion programs and suggestions have been made to increase the participation of employees who are less likely to be involved.

Some research studies have found that those who participate in health promotion programs based at the worksite tend to be ". . . more educated, healthier, more motivated to improve their health behavior, less absent, and having higher level positions in the company than non participants" (Conrad, Conrad and Walcott-McQuigg, 1991, p. 114). Along the same lines, Stange, Strogatz, Schoenback, Shy, Dalton, & Cross (1991, p. 474) reviewed worksite health promotion literature and found that:

> . . . women were more likely to participate than men. Participants were younger than nonparticipants in one corporate health-risk appraisal. Salaried employees in one program were more likely than hourly employees to participate. . . higher educational level has been associated with participation. . . participants in work-site programs may be more likely to exercise and less likely to smoke. . .

In a study by Stange, Strogatz, Schoenback, Shy, Dalton, & Cross (1991) researchers noted that relationships between participation rate or educational level were not statistically significant.

Non participation in workbased health promotion programs poses a problem and a concern with regards to the potential impact of a program's effectiveness. Stange, Strogatz, Schoenback, Shy, Dalton, & Cross (1991, p. 477) have stated that ". . . programs may not attract a group of employees who may engage in more high-risk behaviors and generally have less access to resources for health promotion. . . ". This particular group of researchers warn that the

culture of wellness created by workbased health promotion programs may carry with it the risk of alienating employees who lead unhealthy lifestyles.

The present research study may also be able to provide some insight as to whether factors such as age, income, gender, level of education and work location make any difference with regards to participation levels in the Air Traffic Controller Occupational Health Program.

Why Health Promotion at the Workplace?

It has been cited that the number of organizations offering workbased health promotion programs has greatly increased in the past twenty years. Why is it that the workplace has become a prime location for the promotion of health? According to the literature a number of factors motivate organizations to consider programs that promote healthy living. These include; the appropriateness of the site, health costs of negative lifestyle factors and health and lifestyle research.

The workplace has been identified as being an appropriate location for health promotion programs due to its' accessible audience. Canadians spend approximately sixty percent of their waking hours at work (Dooner, 1990/91) and therefore, the worksite seems like a natural place to promote healthy living. As well, the worksite is a community in which there are established channels of communication (Shephard, 1991; Stewart, 1990/91) making health promotion and follow up programs possible (Erfurt, Foote, and Heirich, 1991).

The fact that a number of people are gathered at a location on a regular basis is encouraging for individuals who promote health. Pencak (1991) outlines

a number of other factors that suggest that worksite health promotion is appropriate. These include the:

> . . . reduction of time and travel barriers to employees' participation; sustained employment means that sustained interventions are feasible; cohesiveness of the workgroup for peer support and peer pressure; existence of well-established communication channels; and the fact that employees constitute a captive audience. (p. 234)

In questioning the appropriateness of health promotion at the worksite it is important to consider employee lifestyle and the high price that may result from unhealthy behaviors. Kizer (in Shi, 1992) states that the

> . . . shift of the leading causes of death from infectious to chronic diseases such as heart disease or cancer and injury indicates that the workplace is indeed an ideal environment for health promotion that targets risk behaviors such as cigarette smoking, alcohol abuse, lack of exercise, unsafe driving, poor dietary habits, and uncontrolled hypertension (p. 4).

As well, negative stress is extremely common in the North American work environment. The impact of stress has been significant resulting in problems that range from tension headaches to stress leave. Dooner (1990/91, p. 2) states that if negative stress persists, it ". . . erodes individual and organizational self-efficacy, and can lead to illness, accidents and unhealthy lifestyle practices." Shain (1990/91) agrees. In fact, the Centers for Disease Control in the United States

estimate that lifestyle factors such as stress account for half of the causative factors that are related to the ten leading causes of death (Kellerman, Felts, and Chenier, 1992).

In addition, the U.S. Department of Agriculture and U.S. Department of Health and Human Services (in Smith and Bobroff, 1991, p. 89) report that sixty percent of the leading causes of death are related to lifestyle and ninety percent of premature deaths in the United States can be linked to six risk behaviors including uncontrolled hypertension, poor dietary habits, cigarette smoking, alcohol abuse, lack of exercise and unsafe driving habits (in Shi, 1992). In another study by Wheat, Graney, Shachtman, Ginn, Patrick, & Hulka (1992), researchers concluded that 25% to 50% of the consequences of cancer and cardiovascular diseases and 25% to 75% of unintentional injuries are preventable.

More and more worksites are choosing to promote employee health in hopes of preventing illness and disease as well as to reduce the cost of employee related health problems. Unhealthy lifestyles may lead to increased health problems and result in increased health care costs. This factor alone provides incentive for many industries and businesses to consider health promotion programs that are based at the worksite (Wheat, Graney, Shachtman, Ginn, Patrick, & Hulka, 1992, Shi, 1992; Wolfe, Slack and Rose-Hearn, 1993; Pencak, 1991). The leading motivating factor in the implementation of workplace health promotion programs is the shift in focus from the ". . . costs of treating illnesses to reducing some of these costs by preventing illness" (Pencak, 1991, p. 234). As a result of license losses related to lifestyle risk factors, Transport Canada recognized that an occupation specific health promotion program would be beneficial for Canadian Air Traffic Controllers.

Managers are looking for evidence that proves that worksite health promotion programs do what they claim to. Evidence of the positive effects of worksite health promotion programs is increasing and there are several studies that have established the link between employee health and the workplace. Pencak (1991) believes that members of organizations are more likely to support a health promotion program, and to justify the financial investment, after reviewing the research that is available.

A number of organizations have recognized that their worksite is an appropriate place for health promotion and have incorporated health related strategies into a variety of work activities. Some of the benefits experienced by these organizations are discussed below.

Perceived Benefits of Workplace Health Promotion Programs

Increased employee productivity is seen as one of the greatest benefits of offering worksite health promotion programs (Kizer, Folkers, Felten and Neimeyer, 1992; Bailey, 1990; Deacon, 1990/91; Hollander and Lengermann, 1988; Moxley, 1990; Shi, 1992; IRSA: The Association of Quality Clubs, 1990; Shepherd, 1991). In a recent survey report by Sefton, Mummery and Johnston (1994, p. 21) it was cited that "With the exception of companies with 250-499 employees, increased productivity was rated as the most important benefit of a health promotion program. . . " As well, European organizations have emphasized the "strong links between safety and health issues on one hand and indicators of organizational efficiency on the other" (Anderson, 1990/91, p. 14).

Dooner (1990/91, p. 6) provides an example that demonstrates the cost effectiveness of a worksite health promotion program. He states that

> Managers looking at employee absenteeism records will probably find that the average sick leave per employee over the past five years is between six and ten days per year. Assuming the minimum of six days, in an organization with 500 employees total absenteeism would amount to the equivalent of 14 full-time employees per year. At an average salary of $30000, the lost productivity would total approximately $420 000 per year in salary dollars alone. . . Moreover, investing in the cost of a single prescription ($15) per employee could have the same price tag as responding to one or more of the major needs identified in employee surveys.

Not only will employees absenteeism decrease but, employee turnover may be affected positively as well (Dooner, 1990/91; Hollander and Lengermann, 1988; Moxley, 1990; Shi, 1992; Wolfe, Slack and Rose-Hearn, 1993; IRSA: The Association of Quality Clubs, 1990). Deacon (1990/91, p. 8) outlines that the ". . . direct costs incurred are for executive searches, investment in retraining, and the temporarily lower levels of productivity which inevitably follow when an employee leaves." Wolfe, Slack and Rose-Hearn (1993, p. 196) also indicate that "Increased domestic and global competition are resulting in intensified efforts to recruit, retain, and motivate high quality employees." One strategy for achieving such outcomes, is to adopt a worksite health promotion program.

Related to employee turnover is the finding that a worksite health promotion program can have a positive impact on the image of an organization (Pencak, 1991; Shephard, 1991). Employers who demonstrate concern for their employees tend to be viewed positively and as a result, may find that they attract, and better retain, personnel. Sefton, Mummery and Johnston (1994, p. 21), from the Alberta Centre for Well-Being, found that the highest rated benefit

for companies with two hundred fifty to four hundred ninety nine employees was that it ". . . demonstrates we care about our employees." Deacon (1990/91, p. 7) also states that if ". . . employees feel that their employer is genuinely concerned about their health, it can build trust."

Moxley (1990), Pencak (1991), IRSA: The Association of Quality Clubs, (1990) and Shephard (1991) list improved job satisfaction as another benefit of offering an employee wellness program. Greater job satisfaction was also rated as one of the top three benefits for companies with less than fifty employees in a recent workplace health promotion survey by Sefton, Mummery and Johnston (1994).

Employee morale and interaction among employees has also been shown to increase (Bailey, 1990; Dooner, 1990/91; Hollander and Lengermann, 1988; Moxley, 1990; Pencak, 1991; IRSA; The Association of Quality Clubs, 1990; Moxley, 1990). Wolfe, Slack and Rose-Hearn (1993, p. 194), in their survey of nine major Canadian organizations, found that ". . . the most important rationales for maintaining programs were to improve employee morale and job satisfaction and to indicate humanistic concerns for the well-being of employees and their families."

In addition, employee health care costs have been noted to decrease (Bailey, 1990: Dooner, 1990/91; Hollander and Lengermann, 1988; Shi, 1992; Wolfe, Slack and Rose-Hearn, 1993; Bertera, 1991; Pencak, 1991; IRSA: The Association of Quality Clubs, 1990; Shephard, 1991). Four years after the Johnson and Johnson Company developed their Live for Life (LFL) program, they reported that employees who had participated in LFL had ". . . significantly higher smoking cessation rates. . . lost more weight or gained less weight. . .

higher levels of satisfaction with supervisor and organizational commitment. . . " (Pencak, 1991, p. 236).

Health care costs among high risk and low risk workers also provide information that is useful in identifying the benefits of a worksite health promotion program. Bertera (1991, p. 1122) found that

> . . . smokers incurred an average excess of $960.04 in illness costs each year compared with nonsmokers. . . excess alcohol intake, $388.86; obesity, $400.60; elevated cholesterol, $369.74; high blood pressure, $343.39; inadequate seatbelt use, $272.91. . . excess illness days and illness costs per person serve as indicators of the average burden for employees who have each of the seven behavioral risk factors.

As a result of a variety of worksite based health promotion programs awareness of health and lifestyle related information has increased (Moxley, 1990; Pencak, 1991). Smith and Bobroff (1991) found that sixty two percent of the population involved in a risk-reduction educational program had gained knowledge about risk factors and had made positive lifestyle-related changes. Similarly, Hannah, Hannah, Mosher and Vardy (1988) found that given the opportunity to participate in a lifestyle awareness program, Workers' Compensation recipients found the modification program beneficial in terms of attaining healthy living habits.

Workplace health promotion programs have been viewed by a number of organizations as an investment in employee health (Sefton, Mummery and Johnston, 1994; Moxley, 1990; Shi, 1992; Shepherd, 1991). In a study by

Kellerman, Felts, and Chenier (1992), it was found that ninety three percent of individuals who had been recommended lifestyle changes by a Health Risk Appraisal intervention changed at least one behavior and learned information that would aid in the improvement of their health.

In a study by Pender, Walker, Sechrist, and Frank-Stromberg (1990) employees improved significantly in terms of taking more responsibility for health, nutrition, and stress management over a three month period as a result of a worksite health promotion program. Shi (1992, p. 18) found that with regards to the Healthwise Stepped Intervention Study conducted to evaluate the effectiveness of a health promotion program, ". . . susceptibility to life risks declined in 18 of the 19 disease categories. . . "

Positive changes in lifestyle behaviors such as decreased stress, decreased cholesterol, blood pressure and body fat have also been noted by Moxley, 1990. Although, Wheat, Graney, Shachtman, Ginn, Patrick, & Hulka (1992, p. 113) warn us that ". . . workplace health promotion programs may not be expected to yield the same health care use outcomes in all workplace settings." That is, changes in health will vary from site to site. In the health promotion survey by Sefton, Mummery and Johnston (1994), the top five perceived benefits of workplace at Alberta's worksites are: increased productivity, reduced absenteeism, demonstrates we care about our employees, better employee relations and improved employee health/wellness.

Expected benefits from workplace health promotion programs are dependent upon the level of health promotion programming that is offered. The evaluation questionnaire distributed to Western Region Air Traffic Controllers involves an assessment of the Air Traffic Controllers perceptions of the benefits

associated with the services of the ATCOH program. In the following, three levels of health promotion programs are outlined.

Levels of Health Promotion Programs

O'Donnell (1986) differentiates between levels of workplace health promotion programs. He believes that most organizational health promotion programs can be categorized into one of three levels. The first is geared towards the awareness level of the participant. At this level of programming there is very little behavior change or improvement in health. O'Donnell (1986) uses the following examples as level one health promotion programs; newsletters, health fairs and health screening without follow up. The Air Traffic Controller Occupational Health Program provides several awareness type services. These include: a bimonthly newsletter, 'From Widebodies to Ultralites', computerized health screening and health and lifestyle related resources.

The second level outlined by O'Donnell (1986) are programs that intend to change the behavior of the participants. These lifestyle change programs utilize health education, experiential learning and behavior modification. Level two programs are more extensive and have more impact than level one as they are continued over a longer period of time (O'Donnell, 1986). Level two programs within the ATCOH program include services related to fitness, cholesterol and blood pressure screening that may lead to third level health promotion programs which focus on supportive environments.

Level three health promotion programs facilitate long-term, sustained healthy living. O'Donnell (1986, p. 5) states that the goal of level three programming is to ". . . create within the worksite an environment that

encourages healthy lifestyles." This level of programming involves organizational elements such as the physical setting, ongoing programming, policy development, corporate culture and employee input into health promotion programming. Changes that have been introduced by the ATCOH program include the addition of onsite exercise equipment and a quiet room. In addition, staff have developed a fitness committee at the Area Control Centre at the International Airport to create an opportunity for Air Traffic Controllers to provide ongoing input into the Occupational Health Program.

The Air Traffic Controller Occupational Health Program, according to it's objectives (Appendix A) involves all three levels of programming. The goals of the program are to promote and foster ongoing awareness of the benefits of a well-balanced and healthy lifestyle. In addition, the program is designed to aid controllers in the identification of lifestyle habits that act as a barrier to higher levels of physical, mental and social health.

ATCOH staff members offer support for individual lifestyle changes and promote wellness to assist Air Traffic Controllers in achieving optimal effectiveness of the operation units and consequently, high standards of flight traffic safety across Canada. Advice and assistance are provided with the goal of creating and maintaining a healthy working environment.

Concluding Remarks

Worksite health promotion programs can contribute towards improving the worksite environment and employee health. Canada's Health Promotion Survey, which was conducted by the Federal Government in 1985, found that approximately sixty six percent of Canadian workers felt that their workplace

was an appropriate place to promote good health (Health Promotion, 1990/91, p. 27). Concern for employees well-being is certainly not a new concept however, more and more organizations are taking the steps to make health promotion initiatives a part of their corporate culture.

Chapter III

Design and Methodology

Introduction

This chapter contains the design and methodology of the Air Traffic Controller Occupational Health (ATCOH) program evaluation. Included are a description of the population, an outline of the conceptual framework and complete descriptions of the questionnaire design and organization. The pilot and field tests are described as are methods of data collection, analysis and methods of presentation. Ethical concerns and considerations are also reviewed.

The central problem in this study was that the Western Region Air Traffic Controller Occupational Health program had never been formally evaluated. The researcher attempted to collect information about the background of the Air Traffic Controllers and to evaluate whether the ATCOH program has increased the understanding, and application, of healthier living strategies. Emphasis has been placed on the Air Traffic Controllers' participation, satisfaction level, perceptions regarding the benefits of the health promotion program and suggestions for program improvements.

Population

The population for this study was limited to the Air Traffic Controllers presently employed in the Western Region (n = 253). The Western Region encompasses all Air Traffic Controllers in Alberta, the Northwest Territories and the Yukon Territories.

Conceptual Framework for Data Collection and Analysis

Stake's educational evaluation model was applied in this study in order to evaluate the Air Traffic Controller Occupational Health (ATCOH) program. In his educational evaluation model, theorist Robert E. Stake distinguishes between antecedent, transaction and outcome information for the purpose of evaluating educational activities (Stake, 1969; Stake in Worthen, 1973). A number of principles outlined by Stake apply to the evaluation of the Air Traffic Controller Occupational Health (ATCOH) program.

Antecedent information describes factors that lead to the development of the educational program while transaction information describes the implementation and content of the program. Stake (1969, p. 61) emphasizes that part of the evaluation should be a description of what was tried and ". . . what the program is." Outcome information outlines the perceived benefits, losses and achievements that result from an educational initiative.

Demographic and participation data were collected as antecedent information while the programs and services of the ATCOH program were outlined to assess transactional information. To describe outcome information, satisfaction levels and the Air Traffic Controllers' perceptions of program benefits

were gathered. As well, strengths and weaknesses of the program were outlined by the Air Traffic Controllers themselves.

In Stake's Countenance of Educational Model, he emphasizes the examination of the relevance of program objectives to needs. Demographic information, participation levels and questions regarding ATCOH resources and services were requested in the evaluation research study and as a result, some inferences will be made with regards to program needs.

Stake (1969, p. 69) emphasizes the importance of determining the ". . . merits and shortcomings of the program ." The evaluation of the ATCOH program involved the identification of the strengths and weaknesses as perceived, or judged, by the Air Traffic Controllers. Recommendations and suggestions for program improvement will also be outlined in chapter five of this thesis.

Stake's more recent work is in the area of responsive evaluation. He has outlined that it is important to be ". . . responsive to realities in the program and to reactions, concerns, and issues of participants" (Worthen and Sanders, 1987). This evaluation approach is valuable for the ATCOH program evaluation as it provides an opportunity to for the key stakeholders, the Western Region Air Traffic Controllers, to outline their concerns with regards to the occupational health program.

Questionnaire Design

The evaluation questionnaire for the Air Traffic Controller Occupational Health program was developed by the researcher in order to meet the specific evaluation needs of the program. The researcher met with the Western Region

ATCOH staff to determine program needs and to discuss evaluation and research strategies. Health promotion and educational evaluation literature were referred to throughout the development of the instrument and the National Administrator for the Air Traffic Controller Occupational Health program provided feedback with regards to the content and format of the questionnaire on an ongoing basis.

The research sub-questions were also guided by Stake's evaluation model which encompasses antecedent, transaction and outcome evaluation components. The single questionnaire instrument was designed and distributed to assess demographic information, participation and satisfaction levels and benefits regarding awareness and lifestyle changes. As well, the survey gave the Air Traffic Controllers an opportunity to comment on the strengths and weaknesses of the ATCOH program as well as recommendations for ways in which the program can better meet their needs.

Pilot and Field Tests

A pilot test of the survey instrument was distributed to two University of Alberta Master's students and to the Western Region and National Air Traffic Controller Occupational Health Program staff on September 11 and 12, 1994. Written and verbal feedback were provided by the Master's students and Western Region health and lifestyle consultant on September 11 and 15 respectively. Verbal feedback was provided by the National Air Traffic Controller Occupational Health Program Administrator on September 15 and written comments received on September 23. All participants in the pilot test provided written and/or verbal feedback with regards to the format of the questionnaire, it's content and the validity of the questions involved.

Input from the pilot test resulted in a number of revisions being made to the proposed questionnaire. The participants in the pilot test were concerned with the format of the document which contributed to it's length. In addition, discussion took place, and suggestions were outlined, with regards to some of the vocabulary used and the interpretation of what a number of questions or statements were attempting to measure. The researcher incorporated the changes suggested as a result of the pilot test between September 12 and 24, 1994.

On September 29, field test packages containing an information letter (Appendix C) and the field test questionnaire were distributed to nine individuals in the Western Region. The purpose of the field test was to ensure that the identified mail out and coding system were appropriate. As well, the field test was completed to establish questionnaire validity and to ensure that the survey was straight forward and of appropriate length. Respondents were asked to comment on the vocabulary, the format of the questionnaire and the applicability of the subject areas. The following people received a field test package: one Air Traffic Controller Unit Manager; one Air Traffic Controller clerk administrator; three Air Traffic Controllers from the Area Control Centre at Edmonton's International Airport; and two Controllers from each of the Edmonton Municipal Control Tower and Villeneuve Control Tower.

Written feedback was received from all nine participants and the researcher discussed the questionnaire with five of the individuals who had taken part. Feedback from the field test was received between October 5 and 25, 1994 and the information was utilized to redesign the evaluation questions as well as alter the format of the survey making the questionnaire less wordy and easier to comprehend.

Organization of the Questionnaire

The questionnaire was divided into five major sections (see Appendix C) as outlined below;

1. **Section One** of the questionnaire assessed the level of awareness of the ATCOH program and the Air Traffic Controllers' level of participation. In addition, this section requested the Air Traffic Controllers reasons for, and for not, participating.

2. **Section Two** focused on the perceptions of the Air Traffic Controllers with regards to the quality of the ATCOH program staff, resources and services.

3. **Section Three** assessed the perceptions of the respondents with regards to the impact of the ATCOH program in increasing their awareness and promoting healthy lifestyles.

4. **Section Four** gave the Air Traffic Controllers an opportunity to provide feedback to the ATCOH program. This section allowed for general comments with regards to the strengths and weaknesses of the Air Traffic Controller Occupational Health program. In addition, respondents were given an opportunity to supply recommendations for program improvement.

5. **Section Five** gathered demographic information. Questions focused on the personal and work characteristics of the

respondents. Characteristics such as gender, age, level of education, income and location of work were assessed.

Data Collection Techniques

Western Region Managers from eleven locations were contacted by the researcher between October 5 and 12. The researcher explained the study and requested verbal permission from the Managers to proceed with the evaluation. Permission was granted from all of the Air Traffic Control Managers and each one agreed to fax the names of the Western Region Air Traffic Controllers employed at their work site.

The researcher received the names of the Western Region Air Traffic Controllers (n = 253) between October 5 and 12 either verbally, over the phone, or via a fax machine. At this point, the Controllers names and work locations were entered into a data spreadsheet. Personalized letters and evaluation questionnaires were organized for distribution on October 13 and 14. As well, personalized envelopes marked PROTECTED were stuffed and sealed for distribution.

On October 17, the introductory letter (Appendix C) and evaluation questionnaire (Appendix D) were sent out to Air Traffic Controllers (n= 253) employed in the Western Region. The questionnaire requested data that contributed towards an understanding of the antecedent, transaction and outcome information as outlined in Stake's model. The personalized introductory letters described the research and informed the recipients that their participation was voluntary. In addition, it was outlined that all data would be held in strict confidence.

Surveys were coded to enable the researcher to follow up with non-respondents and all Air Traffic Controllers were provided with a self addressed envelope to facilitate the return of the questionnaires. All correspondence was sent via Government Courier from the Edmonton International Airport.

On November 2, two weeks after the initial mail out, the researcher contacted the managers at each of the eleven sites to ensure that the questionnaires had arrived and been distributed. In addition, the researcher emphasized the importance of the feedback to the Air Traffic Controller Occupational Health program and requested cooperation with the return of the questionnaires. At the time, managers were also informed that they should expect reminder letters and replacement questionnaires to arrive the following week.

Surveys were returned to the International Airport in Edmonton via Government Courier in an envelope addressed to the researcher and marked PROTECTED. The Lifestyle Coordinator delivered the unopened questionnaires to the researcher.

On November 7, three weeks after the introductory letters and questionnaires had been distributed, 14.6% (n = 37) of the evaluation questionnaires had been returned. The researcher organized a personalized reminder letter and replacement questionnaire for all nonrespondents and distributed these packages (n = 216) on November 8. Follow up calls were made to all sites on November 21 to ensure that the replacement surveys had been delivered and to encourage the return of the questionnaires.

On December 5, 35.2% (n = 89) of the questionnaires had been returned to the researcher. Due to the response rate and a discussion with her supervisor,

the researcher randomly selected the names of twenty non-respondents on December 6, 1994. On December 8, the researcher contacted the site managers explaining the followup procedure and requesting shift schedules for each of the selected Controllers. Managers outlined the shift schedules and appropriate times to contact each Air Traffic Controller. Five of the selected Air Traffic Controllers were contacted that same day and after the procedure was outlined each controller was asked the first three questions from the survey (Appendix D) as well as the questions from section five of the survey which pertain to demographic data. The sixth Air Traffic Controller was concerned with his anonymity and as a result contacted the Regional Union Manager who, on December 9, requested that the followup telephone surveys be discontinued.

It was suggested to the researcher to send followup surveys to the Air Traffic Controllers who had been randomly selected for the telephone follow up. After considerable thought and discussion with the Western Region program staff, it was decided that further followup would not be appropriate for two reasons. First of all, each Air Traffic Controller in the Western Region had previously received two questionnaires therefore, two opportunities to provide feedback. Secondly, sending a third survey to those randomly selected may jeopardize positive feelings about the ATCOH program and it's staff.

By December 11, 1994, ninety four usable questionnaires had been returned to the researcher yielding a response rate of slightly over 37%. To validate that the questionnaires received were a representative sample, the researcher contacted the Director of Air Traffic Services on January 31, 1995 to request Western Region Air Traffic Controller demographic data. On February 6, a memo was sent to Air Traffic Services (see Appendix C). As a means of followup, an additional memo was written to notify the Director that the age categories had been altered and to request information regarding the average costs of training one Air Traffic Controller, estimated costs of sick leave for Western Region Air Traffic Controllers and the cost of lifestyle related license losses in the Western Region.

Process for Data Analysis and Presentation

The evaluation of the Air Traffic Controller Occupational Health program was assessed via nine research questions. Data contributing to antecedent, transaction and outcome information were collected. The data for each research question were handled in the following ways:

1. What are the demographic profiles of the Air Traffic Controllers for whom the ATCOH program exists, and how has the profile changed since the 1990 user feedback questionnaire?

Demographic information was represented using frequencies and percentages. The full range of responses are presented in table format outlining the personal and work profiles of the responding Western Region Air Traffic Contollers. Information about the age, gender and level of education of the respondents is displayed in a Personal Profile Table while work experience,

gross annual income and work location data are outlined in a Work Profile Table. In addition, the 1994 profiles of Western Region Air Traffic Controllers are compared to those from the 1990 user feedback questionnaire and displayed in a table.

2. What is the participation level of the Air Traffic Controllers?

Participation levels were assessed in section 1 of the survey. Answers to questions regarding the level of awareness, frequency with which the newsletter was read and utilization of the ATCOH resources and services were analyzed using the Statistics Package for Social Sciences (SPSS) and the frequencies and percentages outlined in table format.

3. What ATCOH services have been utilized by the Air Traffic Controllers?

4. For what reasons do the Air Traffic Controllers participate in the Air Traffic Controller Occupational Health program?

Sub-questions three and four were analyzed using frequency calculations and valid percentages. Data outlining the Air Traffic Controllers' reasons for, and for not, participating in are organized in rank order tables as are statistics about the utilization of ATCOH programs and educational sessions.

For the ease of statistical analysis, responses to negative statements in sections two and three of the evaluation questionnaire (Appendix D) were recoded.

5. What additional services and resources would the Air Traffic Controllers identify as useful?

The results of open ended questions regarding additional services and resources were analyzed for common themes and displayed in a table outlining the major themes, frequencies and respondent comments.

6. In what ways are the Air Traffic Controllers satisfied/dissatisfied with the Air Traffic Controller Occupational Health program?

7. According to the Air Traffic Controllers, how has their awareness of healthy lifestyle behaviors increased as a result of the Air Traffic Controller Occupational Health program?

8. According to the Air Traffic Controllers, what changes have they made in their lifestyle as a result of the Air Traffic Controller Occupational Health program?

Responses from sub-questions six to eight were analyzed utilizing SPSS and then outlined in rank order table format outlining frequencies and percentages.

9. According to the Air Traffic Controllers, what are the strengths and weaknesses of the ATCOH program and what could be done to better meet their health and lifestyle needs?

Responses to the open ended questions regarding the strengths, weaknesses and suggested improvements were analyzed by the most common emerging themes. Themes were categorized and listed in rank order table format outlining major themes and frequencies.

Ethical Concerns and Considerations

A number of measures were taken with regards to ethical concerns and considerations. The research proposal and post pilot evaluation questionnaire were submitted to the University of Alberta Adult, Career and Technology Department Research Ethics Review Committee on September 19 and approval was given on October 5, 1994.

Written support for this research evaluation study was obtained from the Western Region Lifestyle Consultant on October 15 (Appendix B). Permission to proceed with the research was also given to the Western Region Air Traffic Controller Occupational Health program Consultant via telephone from the National Program Administrator, who is based in Ottawa.

Anonymity of the respondents was maintained throughout the research evaluation. The introductory letter which accompanied the ATCOH evaluation questionnaire outlined the purpose of the study and the intended usage of the data (Appendix C). This letter requested the voluntary participation of the Air Traffic Controllers and stressed the fact that all responses would remain anonymous.

Each Air Traffic Controller was assigned an identification number and questionnaires were coded accordingly. This system provided a means of monitoring the return of questionnaires. Identification numbers were for the sole use of the primary researcher and anonymity was protected by separating the list of names and identification numbers from the completed questionnaires. In addition, the Air Traffic Controller survey identification numbers were destroyed prior to the analysis of data.

A random sample of the nonrespondents was completed in order to assess whether or not the questionnaires received were a representative sample. As described earlier, evaluation surveys completed over the telephone were discontinued as requested by the Regional Manager for the Canadian Air Traffic Controllers Association (CATCA).

Follow-up letters were sent to each of the eleven sites in the Western Region to thank the Air Traffic Controllers for their participation and to provide an overview of the research (Appendix C). Controllers were notified that the results of the research would be published in the January/February newsletter and that in mid February a more detailed summary of the program evaluation would be available from the Western Region Lifestyle Consultant.

Summary

This chapter presented the design and methodology of the ATCOH program evaluation. The participants were outlined and the conceptual framework presented. The steps taken in initiating and organizing the research questionnaire were discussed and the methods of collecting, analyzing and reporting the data included. In the final section of this chapter ethical concerns and considerations were discussed.

The findings, which emerged as a result of the analysis of the data collection, are presented in Chapter Four. The presentation of the data is in a descriptive format with tables to enhance readability and facilitate understanding.

Chapter IV

Presentation of Results

Introduction

This chapter presents the results of the data which were obtained through the methods and questionnaire described in Chapter Three. The results are presented descriptively, as well as in table format, with the research sub-questions serving as an outline.

The questionnaire distribution and response rate is presented in Table 1. Almost fifteen percent (n = 37) of the 253 surveys were returned prior to November 8, 1994, when the reminder letter was sent out. By December 11, after one reminder letter and telephone followup, ninety four usable questionnaires had been returned to the researcher, yielding a thirty seven percent response rate.

Table 1

Questionnaire Distribution and Response Rates

Date	Distributed N	Response N	Response Rate
Nov. 8, 1994	253	37	14.6
Dec. 11, 1994	253	94	37.2

Table 2 outlines the sites in which Western Region Air Traffic Controllers are employed as well as information about the return of the surveys. Within the table, ATC stands for Air Traffic Controller(s). Column 1 lists each of the eleven sites while column 2 indicates the number of Air Traffic Controllers employed at each location. Columns 3 and 4 describe the number of surveys returned, as well as the percent of total surveys received from each location. The percent of the total Air Traffic Controller population that each location represents is shown in Column 5 followed by the percent of the total surveys returned from all locations.

It is interesting to note that the towers employing less than twenty Air Traffic Controllers (Column 2) with the exception of the towers in Fort McMurray and Grande Prairie, returned between forty and eighty three percent of the surveys sent to them (Column 4) while Air Traffic Controllers employed at the larger centres, Calgary International and Edmonton International Area Control Centre, returned only twenty seven and thirty two percent of the total number of surveys sent to them (Column 4). While Calgary International and Edmonton International locations employ over sixty eight percent of the Air Traffic Controllers in the Western Region, feedback was received from just over fifty four percent of these Air Traffic Controllers. As a result, the data may be more representative of the experiences, opinions and perceptions of the Air

Traffic Controllers employed in the outlying towers than those of the larger centres in Edmonton and Calgary.

Due to federal cutbacks, three of the towers, including those in Lethbridge, Fort McMurray and Grande Prairie, are due to close in 1995. It is interesting to note that Air Traffic Controllers from the Fort McMurray and Grande Prairie towers did not respond to the evaluation questionnaire at all. The total population of Controllers employed at the two locations is small (n = 7) and as a result, it is unlikely that the data are greatly affected.

Table 2

Air Traffic Controller Sites and The Return of Surveys

Column 1	2	3	4	5	6
Site	# ATC Employed on Site	Total # of Surveys Returned	Percent of Surveys Returned	% of ATC Population	% of Surveys Returned
Calgary Int.	62	17	27.4	24.5	18.1
Edmonton Int. (ACC)	111	36	32.4	43.9	38.3
Edmonton Int. Tower	10	4	40.0	4.0	4.3
Edmonton Muni.	20	12	60.0	7.9	12.8
Fort McMurray	3	0	0.0	1.2	0.0
Grande Prairie	4	0	0.0	1.6	0.0
Lethbridge	4	2	50.0	1.6	2.1
Springbank	14	6	42.9	5.5	6.4
Villeneuve	6	5	83.3	2.4	5.3
Whitehorse	8	6	75.0	3.2	6.4
Yellowknife	11	6	54.6	4.4	6.4
Total	253	94	100	100	100

Due to a thirty seven percent (n = 94) response rate, the researcher attempted to collect program awareness, program participation and demographic information from Western Region Air Traffic Controllers who did not respond to the evaluation questionnaire. The researcher randomly selected twenty of the nonrespondents for telephone surveys however, after the fifth call she was asked to discontinue telephone followup with Western Region Air Traffic Controllers.

At this point, the researcher was referred to Transport Canada's Western Region Air Traffic Services for demographic data. Table 3 compares the demographic data collected by the 1994 evaluation questionnaire and that provided by Transport Canada's Air Traffic Services for the Western Region. The gender, age range, age and work locations of the Western Region Air Traffic Controllers were compared.

Table 3

Comparison of Western Region Air Traffic Controller Demographic Data

Data Outlining	Response	Evaluation Questionnaire N = 94	Transport Canada Air Traffic Services N = 269
Valid %			
Gender	Male	95.7	97.4
	Female	4.3	2.6
Age Range		22 - 62	22 - 63
Average Age		41.0	40.7
Age	>55 years of age	3.5	1.1
	45-54 years of age	34.9	32.7
	35-44 years of age	46.5	45.7
	25-34 years of age	12.8	16.7
	18-24 years of age	2.3	3.7
Work Location	Tower Control Unit	61.7	56.1
	Area Control Centre (Edmonton International Airport)	38.3	43.9

The respondents of the 1994 evaluation questionnaire appear to represent Western Region Air Traffic Controllers according to the demographic data provided by Transport Canada's Air Traffic Services for the Western Region. As

demonstrated in Table 3, close to ninety six percent of the questionnaire respondents were male and according to Air Traffic Services, male Air Traffic Controllers represent just over ninety seven percent of all the Air Traffic Controllers employed in the Western Region.

According to Transport Canada's Air Traffic Services, the average age of Air Traffic Controllers employed in the Western Region is close to 41 years (40.7 years). The average age of the respondents to the 1994 evaluation questionnaire was exactly forty one years of age. The age range of the questionnaire respondents and the data from Western Region Air Traffic Services also correspond very closely. The demographic information from Transport Canada indicates that the age of Western Region Air Traffic Controllers ranges from twenty two to sixty two years of age while the respondents to the 1994 evaluation questionnaire ranged from twenty two to sixty three years of age.

The majority of the Western Region Air Traffic Controllers who responded to the evaluation questionnaire were between thirty five and forty four years of age (46.5%). This is also true of the data provided by Transport Canada in which almost forty six percent of the total Air Traffic Controller population fall into. The forty four to fifty five age category was represented by close to thirty five percent of the 1994 questionnaire respondents. While this age category, according to Western Region Air Traffic Services, is one in which almost thirty three percent of all Western Region Air Traffic Controllers lie.

With regards to their gender and age, the respondents of the Western Region Air Traffic Controller Occupational Health program evaluation appear to be a representative sample of all of the Air Traffic Controllers presently employed in Alberta, the Northwest Territories and the Yukon Territories. It

does appear, however, that those who completed the evaluation instrument tend to represent the outlying tower locations to a greater degree than the Area Control Centre at the Edmonton International Airport where the occupational health program office is housed. While slightly over fifty six percent of the Air Traffic Controllers are employed at a Tower Control Unit, over sixty four percent of the evaluation questionnaires were completed by tower employed Air Traffic Controllers. The results, then, may reflect the views of the Air Traffic Controllers employed at tower locations slightly more than those employed at the Area Control Centre.

As a result of the comparison of the demographic data, the feedback provided by Western Region Air Traffic Controllers via the 1994 evaluation questionnaires can be said to be a representative sample of the Air Traffic Controllers employed in the Western Region.

Data Related to the Problem Statement

The central problem in this study was to evaluate the Western Region Air Traffic Controller Occupational Health (ATCOH) program. The researcher attempted to collect information about the background of the Air Traffic Controllers and to evaluate whether the ATCOH program has increased the understanding and application of healthy living strategies. Emphasis has been placed on the Air Traffic Controllers' demographics, participation, satisfaction level, perceptions regarding the benefits of the health promotion program and suggestions for program improvements.

Stake's evaluation model (1967) was used as a guide for the research. Reference was made to antecedent, transaction and outcome information in the

design of the questions that were formulated to address the research problem. Questions 1, 2 and 4 relate to antecedent information while questions 3 and 5 relate to transaction information.

1. What are the demographic profiles of the Air Traffic Controllers for whom the ATCOH program exists, and how has the profile changed since the 1990 user feedback questionnaire?

2. What is the participation level of the Air Traffic Controllers?

3. What ATCOH services have been utilized by the Air Traffic Controllers?

4. For what reasons do the Air Traffic Controllers participate in the Air Traffic Controller Occupational Health program?

5. What additional services and resources would the Air Traffic Controllers identify as useful?

Questions 6 to 9 relate to outcome information.

6. In what ways are the Air Traffic Controllers satisfied/dissatisfied with the Air Traffic Controller Occupational Health program?

7. According to the Air Traffic Controllers, how has their awareness of healthy lifestyle behaviors increased as a result of the Air Traffic Controller Occupational Health program?

8. According to the Air Traffic Controllers, what changes have they made in their lifestyle as a result of the Air Traffic Controller Occupational Health program?

9. According to the Air Traffic Controllers, what are the strengths and weaknesses of the ATCOH program and what could be done to better meet their health and lifestyle needs?

In the following, each of the nine research questions will be addressed with reference to the data collected by the questionnaire instrument outlined in Appendix D.

Research Sub-question 1

What are the demographic profiles of the Air Traffic Controllers for whom the ATCOH program exists, and how has the profile changed since the 1990 user feedback questionnaire?

Western Region Air Traffic Controllers were asked to respond to questions seeking personal and work information in section five of the 1994 evaluation questionnaire. The demographic data provides information about the learners' gender, age, level of education, work experience, gross annual income and work location. Table 4 displays the Personal Profile of the ninety four survey respondents while Table 5 (page 55) outlines the Work Profile of the Western Region Air Traffic Controllers who provided feedback.

Table 4

Personal Profile of Western Region Air Traffic Controllers

(N = 94)

Gender	**N**	**Valid %**
No response	2	—
Female	4	4.3
Male	88	95.7
Total	94	100.0
Age	**N**	**Valid %**
No response	8	—
> 55 years of age	3	3.5
45 - 54 years of age	30	34.9
35 - 44 years of age	40	46.5
25 - 34 years of age	11	12.8
18 - 24 years of age	2	2.3
Total	94	100.0
Level of Education	**N**	**Valid %**
No response	3	—
Did not complete Highschool	1	1.1
Highschool	41	45.1
Post-Secondary Certificate	13	14.3
College or Technical Institute Diploma	19	20.9
University Degree	17	18.7
Total	94	100.0

According to the data, Air Traffic Controllers employed in the Western Region are predominately male. Almost ninety six percent (n = 88) of the ninety four questionnaire respondents were male while just over four percent (n = 4) were female. Two respondents did not indicate their gender.

The evaluation questionnaire also requested the year in which each respondent was born. Air Traffic Controllers in the Western Region range in age from twenty two to sixty two years. The average age is forty one and the most frequently indicated age was forty seven. The researcher categorized the ages of the respondents into five categories as demonstrated in Table 4. Over forty six percent of the Western Region Air Traffic Controllers are between the ages of thirty five and forty four and almost thirty five percent (n = 30) fall within the thirty five to forty four age category. Close to thirteen percent (n = 11) are between twenty five and thirty four and only two to three percent of the Air Traffic Controllers fall into the age categories of eighteen to twenty four and over fifty five.

In addition to responding to questions about gender and age, Western Region Air Traffic Controllers were asked to indicate the highest level of education they had completed. Almost all of the responding Air Traffic Controllers have completed high school education (98.9 %) and close to twenty one percent (n = 19) have a college or technical institute diploma. Almost nineteen percent (n = 17) have a university degree while just over fourteen percent have completed a post-secondary certificate.

Table 5 (page 55 and 56) is a work profile that outlines the work experience, gross annual income and employment location of the Air Traffic Controllers who responded to the 1994 evaluation questionnaire. It is fascinating

to note that of the ninety four Air Traffic Controllers who responded to the questionnaire, well over half of them (65.2%) have over sixteen years of experience in the Air Traffic Control field. Slightly more than fifteen percent of the respondents (n = 14) had worked in the Air Traffic Control field between eleven to fifteen years and an additional fifteen percent had between one and five years of experience. Only one respondent (1.1%) had less that one year of experience as an Air Traffic Controller.

Table 5

Work Profile of Western Region Air Traffic Controllers

(N = 94)

Work Experience	**N**	**Valid %**
No response	2	---
< 1 year	1	1.1
1 - 5 years	14	15.2
6 - 10 years	3	3.3
11 - 15 years	14	15.2
16 years and over	60	65.2
Total	94	100.0
Gross Annual Income	**N**	**Valid %**
No response	7	---
$25 000 - $39 999/year	4	4.6
$40 000 - $69 999/year	37	42.5
$70 000 - $99 999/year	36	41.4
$100 000 and over	10	11.5
Total	94	100.0

Table 5 (con't)

Work Profile of Western Region Air Traffic Controllers

(N = 94)

Work Site	N	Valid %
No response	2	---
ACC	33	38.3
Tower/TCU	59	61.7
Total	94	100.0

According to the data collected via the research instrument, the majority of Western Region Air Traffic Controllers (83.9%) gross between forty and one hundred thousand dollars annually. While over forty percent (n = 37) of the Western Region Air Traffic Controllers make between $40 000 and $69 999, another forty percent (n = 36) gross between $70 000 and $99 999 and more than eleven percent (n = 10) make over $100 000 per year.

Over thirty eight percent of the questionnaire respondents are employed at the Area Control Centre (ACC) and close to sixty two percent (n = 59) at an outlying tower location. The percentage of Air Traffic Controllers employed at tower locations is somewhat higher than the actual population of Air Traffic Controllers who work at Tower Control Units in the Western Region. Approximately forty four percent of the Air Traffic Contollers in the Western Region are employed at the Area Control Centre as indicated in Column 5 of Table 2 (page 46). The remaining population (56.1%) are employed in the outlying towers. Tower employed Air Traffic Controller respondents represented a slightly higher percentage than the actual total of Air Traffic Controllers employed at tower control units in the 1994 program evaluation.

This may indicate that the views of the outlying Air Traffic Controller population in the Western Region are more highly represented that those employed at the Area Control Centre at Edmonton's International Airport.

The 1990 demographic data are outlined in Table 6. The second part of the first research sub-question inquired into the changes in the demographic profiles of the Western Region Air Traffic Controllers since the 1990 user feedback questionnaire. While thirteen percent of the 1990 user feedback questionnaire respondents were female, females made up only four percent of the 1994 questionnaire respondents.

As expected, the ages of the respondents also varied between the 1990 and 1994 questionnaires. While the percentage of respondents from the twenty five to forty four age categories has decreased since 1990, the 1994 evaluation questionnaire data shows a marked increase in the forty five to fifty four age category. As well, there was a slight increase in the percent of respondents who were fifty five years and older.

It is also interesting to note that of those who responded to the 1990 user feedback questionnaire fifty six percent and close to forty four percent were employed at the ACC and tower locations respectively. In comparison to the 1990 user feedback questionnaire, the Western Region Air Traffic Controllers who responded to the 1994 evaluation survey tend to represent tower locations moreso than the Area Control Centre.

According to the demographic data collected in 1990, the population of Western Region Air Traffic Controllers who responded to the 1994 evaluation questionnaire tend to be a higher percentage of males representing Air Traffic Controllers employed at tower locations. As well, the age of the Air Traffic

Controllers has increased as has the percentage of respondents over the age of forty five.

Table 6

Comparison of 1990 and 1994 Demographic Profiles

Valid Percents	**1990** (n = 91)	**1994** (n = 94)
Gender		
Female	13.2	4.3
Male	86.8	95.7
Total	100.0	100.0
Age		
> 55 years of age	2.2	3.5
45 - 54 years of age	23.1	34.9
35 - 44 years of age	54.9	46.5
25 - 34 years of age	17.6	12.8
18 - 24 years of age	2.2	2.3
Total	100.0	100.0
Work Site		
Tower Control Unit	43.9	61.7
Area Control Centre	56.1	38.3
Total	100.0	100.0

Research Sub-question 2

What is the participation level of the Air Traffic Controllers?

The participation level of the Air Traffic Controllers was assessed in the first section of the evaluation questionnaire (Appendix D). Questions regarding their level of awareness, degree of participation and the frequency with which the newsletter is read were utilized to assess the level of participation of the Western Region Air Traffic Controllers.

While almost ninety eight percent of the questionnaire respondents (n = 92) were aware of the health promotion services offered by the Air Traffic Controller Occupational Health (ATCOH) program, eighty percent had utilized the services (Table 7). Two of the respondents indicated that they were not aware of the programs and services offered by the Air Traffic Controller Occupational Health program.

Table 7

Awareness of, and Participation in, ATCOH Programs and Services

(N = 94)

Awareness of ATCOH Programs & Services	N	%
Yes	92	97.9
No	2	2.1
Total	94	100.0

Table 7 (con't)

Awareness of, and Participation in, ATCOH Programs and Services

(N = 94)

Participation in ATCOH Programs & Services	N	%
Yes	75	79.8
No	17	18.1
Not Aware	2	2.1
Total	94	100.0

Participation was also assessed with regards to the frequency in which the ATCOH newsletter, 'From WideBodies to Ultralites' was read. Almost ninety three percent of the Air Traffic Controllers who responded to the survey read the newsletter at some point in the past two years. As Table 8 indicates, 'From WideBodies to Ultralites' is read by close to half of the respondents (47.8%) over seven times per year. One quarter of the respondents refer to the newsletter four to six times per year and almost twenty two percent read the newsletter up to three times annually. Four percent (n = 4) of the Air Traffic Controllers who responded indicated that they never read the newsletter.

Table 8

Frequency at which the Newsletter is Read

(N = 94)

Newsletter	N	Valid %
Unaware of the Program	2	—
No response	1	1.1
10 - 12 times/year	31	33.7
7 - 9 times/year	13	14.1
4 - 6 times/year	23	25.0
1 - 3 times/year	20	21.7
Never	4	4.3
Total	94	100

Research Sub-question 3

What ATCOH services have been utilized by the Air Traffic Controllers?

In section one of the evaluation questionnaire, Western Region Air Traffic Controllers were asked to indicate the ATCOH programs or educational services they participated in, either as an individual or in a group setting, in the past two years. The services of the Air Traffic Controller Occupational Health program were listed and the Air Traffic Controllers were instructed to check all that they had participated in. In addition, they were provided with an opportunity to outline other ATCOH services they had utilized.

Seventy five of the ninety four survey respondents had utilized services offered by the ATCOH program. The most common programs and educational sessions in which the Air Traffic Controllers have participated in the past two years are listed in Table 9 (page 63 and 64). Screening programs offered by the occupational health staff were most commonly utilized. Seventy two percent (n = 54) of the respondents have had their cholesterol levels checked by ATCOH program staff while over sixty percent (n = 46) have had their blood pressure screened in the past two years.

Courses and resource material related to lifestyle issues also attract the participation of the Western Region Air Traffic Controllers. Well over one third (38.7%) of the respondents have been trained in Cardio-Pulmonary Resuscitation. Health and lifestyle related books, tapes and pamphlets are also available for loan to all Western Region Air Traffic Controllers free of charge. Thirty nine percent of the Air Traffic Controllers (n = 29) have utilized, or referred to, ATCOH resource materials.

Over thirty seven percent of the respondents (n = 28) had participated in the services offered by the Air Traffic Controller Occupational Health program during their annual refresher course. Refresher courses are typically held once every calendar year at the Air Traffic Controllers' immediate worksite or at a nearby tower location. Attendance at refresher courses is mandatory and ATCOH program staff have been invited to participate in refresher courses by a number of site managers. Occupational health staff are usually scheduled to provide one to two hours of health and lifestyle related information such as stress management, shift work and Cardio-Pulmonary Resuscitation and/or first aid training.

Activities focusing on healthy eating and fitness related issues are also commonly attended by the Western Region Air Traffic Controllers. Almost thirty one percent of the responding Air Traffic Controllers have participated in programs or services that focus on eating habits. Over one quarter of the respondents (n = 20) have had a physical fitness appraisal while twenty four percent (n = 18) have participated in services related to exercise programming. As well, almost nineteen percent (n = 14) of the respondents have been involved in physical fitness sessions. Other services and activities in which Western Region Air Traffic Controllers have participated in, in the past two years, are listed in Table 9.

Table 9

Participation in ATCOH Programs and Activities

(N = 75)

Programs and Educational Sessions	# of Responses	Valid %	Rank
Cholesterol Screening	54	72.0	1
Blood Pressure Screening	46	61.3	2
CPR Training	29	38.7	3
Resources (Books, tapes, pamphlets)	29	38.7	3
Health Information during Refresher	28	37.3	5
Eating Habits	23	30.7	6
Physical Fitness Appraisal	20	26.7	7
Exercise Programming	18	24.0	8
Physical Fitness	14	18.7	9
Consultation regarding family matters/interpersonal relationships	12	16.0	10

Table 9 (con't)

Participation in ATCOH Programs and Activities

Programs and Educational Sessions	# of Responses	Valid %	Rank
Back Care Program	11	14.7	11
Computerized Health Hazard Appraisal	10	13.3	12
Referral to other health professional or resource by ATCOH staff	10	13.3	12
Shift Work	10	13.3	12
Stress and/or Stress Management	10	13.3	12
Critical Incidence Stress Debriefing	8	10.7	16
Heart Disease	8	10.7	16
Active Living	7	9.3	18
Weight Check	6	8.0	19
Cancer Awareness	5	6.7	20
Competitions between Units	4	5.3	21
First Aid Training	4	5.3	21
Recreation Opportunities	4	5.3	21
Self Examination	4	5.3	21
Walks and/or Runs	4	5.3	21
Smoking Cessation	3	4.0	26
Weight Control	3	4.0	26
Alcohol and/or Drug Counselling	2	2.7	28
Wellness Discussions	2	2.7	28
Mental Health	2	2.7	28

Table 9 (con't)

Participation in ATCOH Programs and Activities

Programs and Educational Sessions	# of Responses	Valid %	Rank
Canoe and/or Cycling Trip	1	1.3	31
Fitness Equipment Concerns	1	1.3	31

Research Sub-question 4

For what reasons do the Air Traffic Controllers participate in the Air Traffic Controller Occupational Health program?

Section one of the evaluation questionnaire asked the Western Region Air Traffic Controllers to indicate their reasons for, and for not, participating in the ATCOH program. Close to eighty percent of the respondents (n = 75) had in some way participated in the Air Traffic Controller Occupational Health program. These individuals were instructed to indicate their reasons for participating by checking all of the statements that applied to them (Section 1E and 1F, Appendix D). As well, they were provided with an opportunity to list other reasons why they do, or do not, take part in the programs and services offered by the occupational health program. Reasons for participating in the ATCOH programs and services are outlined in Table 10 (page 67).

A total of one hundred ninety one responses were provided by the Air Traffic Controllers who responded to this portion of the evaluation questionnaire. The five most common reasons for participating in the ATCOH program accounted for over ninety three percent of the total responses (n = 179). The most common reason for participating in the health and lifestyle programs was due to the interest of Air Traffic Controllers in learning more about health

and lifestyle related issues. Over one quarter (n = 51) of the responses indicate that the Air Traffic Controller's interest in improving his or her awareness of health issues was the primary motivation for participation in the services of the Air Traffic Occupational Health program.

Western Region Air Traffic Controllers are not only interested in learning more about health but, they are interested in applying the material they have learned. The second most common reason for taking part in the services offered by the occupational health program was to improve health and/or to reduce the risk of health problems.

Thirty two of the seventy five Air Traffic Controllers who provided information about their motivation to participate in the programs and services indicated that they do so because they are concerned about their health. Health related concerns are the third most common reason for participating in the ATCOH program.

The Air Traffic Controller Occupational Health program staff are housed at the Edmonton International Airport Area Control Centre yet travel to the ten outlying towers a minimum of two times per year with health and lifestyle related services. The convenience of the programs and services offered by the occupational health program account for close to fourteen percent of the total responses regarding reasons for participation.

The fifth most common reason for the participation of the Western Region Air Traffic Controllers accounted for almost thirteen percent of the total responses. Close to one third of the respondents are motivated to attend programs and participate in services offered by the ATCOH program because of their interest in making changes to their present lifestyle. Other reasons for participating in the occupational health programs and services are outlined in Table 10.

Table 10

Reasons for Participating

(N = 75)

Reasons for Participating	# of Responses	Valid %	Rank
I am interested in improving my awareness of health issues.	51	26.7	1
To improve my health and/or reduce my health problems.	45	23.6	2
I have concerns about my health.	32	16.8	3
The programs and services are convenient.	26	13.6	4
I am interested in making changes in my lifestyle.	25	13.1	5
I have been persuaded to participate	2	1.0	6
For physical fitness.	1	.5	7
To maintain my good health.	1	.5	7
CPR is a must.	1	.5	7
Appearance.	1	.5	7
Recent awareness of my own mortality.	1	.5	7
Chronic back pain.	1	.5	7
Have to - it's part of refresher.	1	.5	7
For my hockey team	1	.5	7
To monitor my blood pressure and cholesterol levels	1	.5	7
To help others.	1	.5	7
Total Responses	191	100.0	

Eighteen percent (n = 17) of the ninety four evaluation questionnaire respondents indicated that they did not participate in the activities offered by the occupational health program. Table 11 outlines the reasons the Air Traffic Controllers provided for not taking part in the ATCOH program services. Three of the reasons for their lack of involvement accounted for seventy percent of the thirty responses.

Participation in health and lifestyle related activities other than those provided by the ATCOH program was the most common reason for not partaking in the worksite health promotion activities. It is promising to note that almost sixty five percent (n = 11) of the Air Traffic Controllers who do not take advantage of the services provided by the ATCOH program participate in health and fitness activities elsewhere.

Five of the respondents who do not participate in ATCOH activities indicated that it is a result of their concern for confidentiality. Discomfort with the issue of confidentiality in the ATCOH program services accounted for close to seventeen percent of the reasons for not participating in the program.
An additional seventeen percent of the respondents (n= 5) do not participate in the worksite health promotion program simply because they do not care to be involved. Other responses indicating the Western Region Air Traffic Controllers reasons for not participating in the ATCOH services are outlined in Table 11.

Table 11

Reasons for Not Participating

(N = 1'

Reasons for not Participating	Responses	Valid %	Rank
I participate in health and fitness activities elsewhere.	11	36.7	1
I am afraid that the services are not confidential.	5	16.7	2
I do not care to be involved.	5	16.7	2
The workplace is not an appropriate place to promote health.	2	6.7	4
No need to up to and including this time.	2	6.7	4
I have no concerns about my health	1	3.3	6
I am not interested in making changes in my lifestyle.	1	3.3	6
I have not been on shift when ATCOH services have been offered.	1	3.3	6
I should not have to feel coerced.	1	3.3	6
The staff are intrusive.	1	3.3	6
Total Responses	30	100.0	

Research Sub-question 5

What additional services and resources would the Air Traffic Controllers identify as useful?

Section four of the ATCOH program evaluation questionnaire (Appendix D), asked the Western Region Air Traffic Controllers to provide information about additional services and resources they would find useful with regards to

the occupational health program. Feedback was given by a number of the respondents and the following services or resources were suggested (Table 12).

A total of fifty suggestions were made with regards to additional resources and services that Western Region Air Traffic Controllers would find useful. The responses were thematically analyzed and clustered into nine categories by the researcher. Twelve of the fifty suggestions for additional services and resources (24%) were related to the inclusion of more lifestyle related workshops and activities. Air Traffic Controllers suggested the inclusion of mandatory detailed, proactive, dynamic sessions to be held during their annual refresher. Other suggestions for lifestyle sessions include such things as weight control followup, dealing with management induced stress, sleep disorders and family dynamic seminars.

Eighteen percent of the suggestions for additional services and resources were related to fitness facilities and/or health club memberships (n = 9). It was proposed by a number of the Air Traffic Controllers that the occupational health staff inquire into the possibility of attaining group membership rates at local community fitness facilities region wide.

Fitness programs accounted for an additional eighteen percent of the suggestions for services and resources that the Western Region Air Traffic Controllers would find useful. Comments revolved around supplying fitness equipment to all towers, organizing and administering sports/recreation activities and interunit competitions and providing exercise tips by placing emphasis on fitness and fitness facilities. Table 12 outlines additional suggestions for ATCOH services and resources.

Table 12

Suggestions for Additional Services and Resources

Theme	# of Responses	Valid %	Rank
Lifestyle Sessions	12	24.0	1
Fitness Facilities/ Health Club Memberships	9	18.0	2
Fitness Programs	9	18.0	2
Fitness Testing/ Goal Setting	5	10.0	4
Staff Resources	5	10.0	4
CPR	4	8.0	6
Funding	3	6.0	7
Critical Incident Stress Debriefing	2	4.0	8
Referrals	1	2.0	9
Total	50	100	

Research Sub-question 6

In what ways are the Air Traffic Controllers satisfied/dissatisfied with the Air Traffic Controller Occupational Health program?

Section two of the evaluation questionnaire requested information regarding the respondents level of satisfaction with the quality of the Air Traffic Controller Occupational Health program. Western Region Air Traffic Controllers were asked to indicate the extent to which they agreed or disagreed with a number of statements in three areas; satisfaction with the quality of the ATCOH

program staff, satisfaction with the quality of the ATCOH program resources and satisfaction with the quality of ATCOH program services.

Please note that the tables outlining satisfaction and dissatisfaction (Tables 13 - 15) utilize NR to indicate the valid percent of individuals who were supposed to, but did not respond to the statement outlined. NA implies that questionnaire respondent felt that the statement was not applicable to him/her while SD indicates strong disagreement and D, disagreement. The A column represents the valid percent of the respondents who agreed with the given statement and SA indicates the percent that strongly agreed.

Table 13 displays the valid percentages of responses to statements regarding satisfaction levels with the quality of ATCOH program employees. Overall, the responses indicate that the Air Traffic Controllers are extremely satisfied with Western Region Air Traffic Controller Occupational Health program staff. The respondents most strongly agreed with statements that described ATCOH staff as being professional, easy to approach, qualified and resourceful.

Over fifty eight percent of the respondents strongly agreed, and thirty four percent agreed, that ATCOH staff are professional. An additional fifty two percent strongly agreed, and forty percent agreed, with a statement describing ATCOH staff as being easy to approach. Western Region Air Traffic Controllers who returned their surveys also expressed great satisfaction with the qualifications (49.3% strongly agreed and 42.7% agreed) and resourcefulness (42.7% strongly agreed and 46.7% agreed) of the ATCOH program staff.

The respondents also expressed a high level of satisfaction with statements describing contact with program staff as being valuable and the level

of confidentiality involved in the services. The referral system of the program staff was positively regarded by the responding Air Traffic Controllers and the statement "ATCOH staff are stimulating educators" was rated highly with over 76% of the respondents either agreeing or strongly agreeing with it.

Table 13

Satisfaction with ATCOH Program Staff

(N = 75)

VALID PERCENT OF RESPONSES (%)	NR (%)	NA (%)	SD (%)	D (%)	A (%)	SA (%)	Rank
ATCOH staff are professional.	1.3	1.3	0	4.0	34.7	58.7	1
ATCOH staff are easy to approach.	2.7	2.7	0	2.7	40.0	52.0	2
ATCOH staff are qualified.	2.7	5.3	0	0	42.7	49.3	3
ATCOH staff are resourceful.	2.7	8.0	0	0	46.7	42.7	4
Contact with program staff has been valuable.	4.0	0	0	1.3	76.0	18.7	5
What I discuss with ATCOH staff remains confidential.	4.0	13.3	1.3	1.3	54.7	25.3	6
If the staff are unable to help me they will provide me with a referral.	2.7	22.7	0	1.3	52.0	21.3	7
ATCOH staff are stimulating educators.	1.3	18.7	0	4.0	73.3	2.7	8

Responses to statements regarding the Western Region Air Traffic Controller Occupational Health program resources were also rated positively by the Western Region Air Traffic Controllers (Table 14, page 75). The respondents are most satisfied with the applicability of ATCOH resources. While thirty two percent of the respondents strongly agreed, sixty three percent agreed, with the

statement "ATCOH resource information is applicable to me as an Air Traffic Controller."

The Air Traffic Controllers who provided feedback via the evaluation questionnaire also indicated that they are satisfied with ATCOH resources in that they are informative. The data also indicate that they find the information covered in the newsletter to be relevant. While almost eleven percent of the respondents strongly agreed with this statement, eighty percent agreed and only two respondents disagreed.

The Western Region Air Traffic Controllers who completed this section of the evaluation questionnaire were also extremely satisfied with the currency of the information provided in the Air Traffic Controller Occupational Health program resources. Over eighty five percent of the respondents agreed with a statement which described the ATCOH resource information as being up to date.

One of the benefits of health promotion programs is for employees to introduce healthy living strategies into their lifestyles. It is promising to note that almost eleven percent of the responding Air Traffic Controllers strongly agreed, and over seventy three percent agreed, with the statement "Resources provided by the ATCOH program enable me to make better decisions about my lifestyle". The data also indicate that the Air Traffic Controllers are satisfied with the accuracy of ATCOH program resource material.

Table 14

Satisfaction with ATCOH Program Resources

(N = 75)

VALID PERCENT OF RESPONSES (%)	NR (%)	NA (%)	SD (%)	D (%)	A (%)	SA (%)	Rank Order
ATCOH resource information is applicable to me as an Air Traffic Controller.	2.7	1.3	0	1.3	62.7	32.0	1
ATCOH resources are informative.	2.1	1.3	0	1.3	73.3	21.3	2
The information covered in the newsletter is relevant.	6.7	0	0	2.7	80.0	10.7	3
ATCOH resource information is up to date.	4.0	9.3	0	1.3	68.0	17.3	4
Resources provided by the ATCOH program enable me to make better decisions about my lifestyle.	4.0	9.3	0	2.7	73.3	10.7	5
ATCOH resources are accurate.	5.3	10.7	0	0	78.7	5.3	6
External resources are made available to me when it is appropriate.	8.0	34.7	0	2.7	48.0	6.7	7

Table 15 (page 77 and 78) outlines the respondents' satisfaction level with the services of the ATCOH program. The responding Air Traffic Controllers are most satisfied with the Air Traffic Controller Occupational Health program services in that they reflect the goal of a long-term healthy lifestyle. While seventeen percent of the respondents strongly agreed with the statement outlining the philosophy of the ATCOH program, over seventy three percent agreed that the ATCOH program reflects commitment to long-term healthy living strategies.

It is important that health education programs are presented so that the audience can find some personal significance, or can relate to, issues being discussed. It is reassuring from an educational point of view that the Air Traffic Controllers needs and goals are considered during ATCOH programs. Over twenty percent of the respondents strongly agreed, and almost sixty seven percent agreed, that their needs and goals were considered in the worksite health promotion programs offered by the occupational health staff.

The responding Air Traffic Controllers indicated that they were quite satisfied with the way in which the ATCOH programs and services are accessible to the majority of the Air Traffic Controllers. While thirteen percent of the respondents strongly agreed, over fifty seven percent agreed that the occupational health services provide an opportunity for all Air Traffic Controllers to participate.

In addition to health promotion activities being organized to reflect long-term healthy lifestyles and limiting accessibility barriers, occupational health programs should also take an all encompassing approach to health promotion. Responses to the 1994 evaluation questionnaire demonstrate the respondents satisfaction with the comprehensive approach of the ATCOH program. Just under seven percent of respondents strongly agreed, and almost seventy five percent agreed, that the ATCOH program reflects a comprehensive and wholistic approach to healthy living.

Although the responding Air Traffic Controllers were extremely satisfied with the focus of the ATCOH program on a long-term healthy lifestyle and the ways in which their needs and goals are considered during the occupational

health programs and services, they were less pleased with the administration and the value, convenience and timing of tower visits.

The data indicate that the respondents are not as satisfied with the hours and locations at which ATCOH services are held. Almost eleven percent of the respondents disagreed with the statement "ATCOH programs are held at convenient hours" and well over thirty percent of the respondents disagreed with statements about the occupational health program being held at convenient locations and the timing of tower visits being appropriate.

Table 15

Satisfaction with ATCOH Program Services

(N = 75)

VALID PERCENT OF RESPONSES (%)	NR (%)	NA (%)	SD (%)	D (%)	A (%)	SA (%)	Rank
The ATCOH program reflects the goal of a long-term healthy lifestyle.	4.0	1.3	1.3	2.7	73.3	17.3	1
My needs and goals are considered during ATCOH programs	4.0	5.3	0	2.7	66.7	21.3	2
ATCOH programs provide an opportunity for all Air Traffic Controllers to participate.	5.3	5.3	2.7	16.0	57.3	13.3	3
The ATCOH program reflects a comprehensive and wholistic approach to healthy living.	8.0	8.0	0	2.7	74.7	6.7	4
ATCOH programs create a supportive work setting.	6.7	20.0	0	2.7	60.0	10.7	5
ATCOH programs are held at convenient hours.	5.3	18.7	1.3	9.3	61.3	4.0	6

Table 15 (con't)

Satisfaction with ATCOH Program Services

(N = 75)

VALID PERCENT OF RESPONSES (%)	NR (%)	NA (%)	SD (%)	D (%)	A (%)	SA (%)	Rank
Tower visits are valuable.	6.7	29.3	0	4.0	38.7	21.3	7
ATCOH programs are held at convenient locations.	6.7	16.0	8.0	18.7	42.7	8.0	8
The timing of tower visits is appropriate.	5.3	33.3	1.3	22.7	33.3	4.0	9

Tables 16, 17 and 18 also reflect the descriptors utilized in the Tables 13, 14 and 15 which outlined satisfaction and dissatisfaction with regards to ATCOH program staff, resources and services.

Research Sub-question 7

According to the Air Traffic Controllers, how has their awareness of healthy lifestyle behaviors increased as a result of the Air Traffic Controller Occupational Health program?

Level one health promotion programs aim to increase the participants' level of awareness of health related issues. It is interesting to note that the results of the 1994 evaluation questionnaire indicate that the respondents believe that their awareness of healthy lifestyle behaviors have increased because of the programs and services of the ATCOH program. As Table 16 (page 80) indicates, responses to statements about the occupational health programs and services positively affecting the degree of awareness and level of motivation of the Air

Traffic Controllers were rated favorably by the respondents. Between eighty seven and ninety four percent of the respondents agreed or strongly agreed with statements outlining the degree to which the services of the ATCOH program increase awareness and encourage healthy living.

It is also reassuring to note that the data reflect the positive results of the attempt of the Western Region Air Traffic Controller Occupational Health program to promote, foster and support health related changes in the lifestyles of Air Traffic Controllers. Close to twenty three percent strongly agreed, and seventy two percent agreed, that they are encouraged to continue leading a healthy lifestyle. In addition, almost seven percent strongly agreed, and over eighty six percent agreed, that they are better informed about their health because of the Air Traffic Controller Occupational Health program.

A large percent of the respondents feel more motivated to lead a healthier lifestyle and over one quarter of the respondents strongly agreed, while close to sixty three percent agreed, that they have a desire to learn more about health issues as a result of the ATCOH program. The majority of the respondents (4.0% strongly agree and 82.7% agree) also indicated that they better understand the relationship between their lifestyle and health.

Table 16

Health and Lifestyle Awareness

(N = 75)

VALID PERCENT OF RESPONSES (%)	NR (%)	NA (%)	SD (%)	D (%)	A (%)	SA (%)	Rank
I am encouraged to continue leading a healthy lifestyle.	2.7	2.7	0	0	72.0	22.7	1
I am better informed about my health.	2.7	1.3	0	2.7	86.7	6.7	2
I feel more motivated to lead a healthier lifestyle.	1.3	5.3	0	2.7	76.0	14.7	3
I have a desire to learn more about health issues.	2.7	8.0	1.3	0	62.7	25.3	4
I better understand the relationship between my lifestyle and my health.	2.7	8.0	0	2.7	82.7	4.0	5

Perceived levels of awareness and benefits of the ATCOH program were also evaluated by looking at the perceptions of the Air Traffic Controllers with regards to the impact of the programs and services on the work environment. The researcher, at this point, was attempting to assess the level of influence the program has had on the workplaces of Air Traffic Controllers in the Western Region.

As seen in Table 17 (page 82), the ATCOH program has had a notable impact at the workplace. Twelve percent of the respondents strongly agreed, and over forty five percent agreed, that as a result of the Western Region Air Traffic Controller Occupational Health program, their work is more flexible in terms of creating opportunities for healthy lifestyles. In addition, almost

nineteen percent of the responding Air Traffic Controllers strongly agreed, and over forty percent agreed, that the ATCOH program has developed a work environment that is supportive of healthy lifestyles.

The responding Air Traffic Controllers also indicated that they discuss health issues with their coworkers more frequently as a result of the ATCOH program (9.3% strongly agreed and over 57% agreed) however, fewer of the respondents agreed and up to thirty two percent disagreed or strongly disagreed with a statement that indicated they have more support from other Controllers to alter their lifestyle habits than they did prior to the ATCOH program.

Almost seven percent strongly agreed and over half of the respondents agreed that they find the presence of ATCOH staff to be a constant reminder that they have control over decisions which affect their health. As well, over five percent of the Air Traffic Controller respondents strongly agreed, and almost fifty percent agreed, that the ATCOH program had, in some way, influenced their workplace.

Table 17

Influence of the ATCOH Program on the Workplace

(N = 75)

VALID PERCENT OF RESPONSES (%)	NR (%)	NA (%)	SD (%)	D (%)	A (%)	SA (%)	Rank
My work is more flexible in terms of creating opportunities for healthy lifestyles.	4.0	8.0	6.7	24.0	45.3	12.0	1
The ATCOH program has developed a work environment that is supportive of healthy lifestyles.	6.7	20.0	2.7	10.7	41.3	18.7	2
I discuss health issues with my coworkers more frequently as a result of the ATCOH program.	5.3	26.7	0	1.3	57.3	9.3	3
The presence of ATCOH staff is a constant reminder that I have control over the decisions I make that affect my health.	6.7	24.0	2.7	9.3	50.7	6.7	4
The ATCOH program has influenced my workplace.	10.7	20.0	0	14.7	49.3	5.3	5
I feel that I have more support from the other controllers to alter my lifestyle than I did prior to the ATCOH program.	5.3	37.3	4.0	28.0	24.0	1.3	6

Research Sub-question 8

According to the Air Traffic Controllers, what changes have they made in their lifestyle as a result of the Air Traffic Controller Occupational Health program?

Table 18 (page 85) outlines the data collected from Section 3C of the evaluation questionnaire which requested information about the lifestyle changes that the ATCOH programs and services have assisted the Air Traffic Controller in making. Close to eighty percent of the Air Traffic Controllers who returned their survey responded favorably to the statement "I have made changes to reduce my risk of disease." As well, over three quarters of the respondents (20% strongly agreed and 57.3% agreed) favorably rated the statement that indicated that as a result of the programs and services of the ATCOH program, "I am more active."

The majority, as witnessed in Table 18, have also made changes in their eating habits by reducing their consumption of any, or all of, the following; sugar, fat, cholesterol and salt. A higher percentage of the respondents have implemented some healthy living tips into their lifestyle (10.7 % strongly agreed and 66.7% agreed) and almost fifteen percent of the respondents strongly agreed, and fifty nine percent agreed, that as a result of the services of the Western Region Air Traffic Controller Occupational Health program they feel that they are more productive at work.

Almost half of those who provided feedback stated that they manage their stress more effectively (5.3% strongly agreed and 44.0% agreed) however, a smaller percentage stated that they use more effective coping skills (5.3% strongly agreed and 32.0% agreed).

The results of the data regarding the statement "I have lost weight" were of particular interest. Western Region Air Traffic Controllers equally communicated that they agreed or strongly agreed (32%) and disagreed or strongly disagreed (32%) that they had lost weight. One third of the respondents commented that the statement was not applicable to them.

For those that found the statement "I have reduced my use of alcohol and/or drugs" applicable, close to three percent strongly agreed and over thirty percent agreed. Statements outlining smoking habits were either incomplete or not applicable to between eighty four percent and ninety percent of the Air Traffic Controllers who provided feedback via the questionnaire instrument. Of the remaining ten and fifteen percent of the respondents close to seven percent and twelve percent smoked less than before or quit smoking as a result of the influence of the Air Traffic Controller Occupational Health program.

Table 18

ATCOH Program Assistance in Making Lifestyle Changes

(N = 75)

VALID PERCENT OF RESPONSES (%)	NR (%)	NA (%)	SD (%)	D (%)	A (%)	SA (%)	Rank
I have made changes to reduce my risk of disease.	6.7	6.7	0	9.3	65.3	12.0	1
I am more active.	6.7	10.7	2.7	2.7	57.3	20.0	2
I have changed some of my eating habits.	8.0	5.3	1.3	12.0	61.3	12.0	3
I have implemented some of the healthy living tips into my own life.	5.3	10.7	0	6.7	66.7	10.7	4
I feel that I am more productive at work	4.0	17.3	2.7	2.7	58.7	14.7	5
I manage my stress more effectively.	6.7	28.0	1.3	14.7	44.0	5.3	6
I take better care of my back.	4.0	29.3	2.7	20.0	41.3	2.7	7
I have lost weight.	5.3	30.7	5.3	26.7	28.0	4.0	8
I use more effective coping skills.	5.3	45.3	1.3	10.7	32.0	5.3	9
I have reduced my use of alcohol and/or drugs.	6.7	40.0	4.0	16.0	30.7	2.7	10
I have quit smoking.	5.3	78.7	1.3	2.7	8.0	4.0	11
I smoke less than before.	9.3	81.3	0	2.7	5.3	1.3	12

Research Sub-question 9

According to the Air Traffic Controllers, what are the strengths and weaknesses of the ATCOH program and what could be done to better meet their health and lifestyle needs?

Western Region Air Traffic Controllers were asked to respond to open ended questions about the strengths and weaknesses of the ATCOH program in section four of the evaluation questionnaire. Table 18 and 19 outline the most common themes as analyzed by the researcher. Western Region Air Traffic Controllers provided almost two hundred (n = 197) strengths of the program and just over one hundred weaknesses (n = 107). The major strengths of the ATCOH program, according to the responding Air Traffic Controllers are the types, amounts and accuracy of resources and the characteristics of the program staff (Table 19). The responses indicating the types of resources accounted for close to eleven percent of the responses as did comments about the characteristics of the Air Traffic Controller Occupational Health program staff.

In addition, the respondents were pleased with the screening programs (blood pressure and cholesterol) and the level of awareness the ATCOH services and resources create. The Western Region Air Traffic Controllers also identified the convenience and accessibility of the program to be a definate strength.

Table 19

Strengths of the ATCOH Program

Theme	# of Responses	%	Rank
Type of Resources	21	10.7	1
Staff Characteristics	21	10.7	1
Blood Pressure and Cholesterol Screening/Awareness	14	7.1	3
Impact of the ATCOH program	13	6.6	4
Location/Accessibility	13	6.6	4
ATC Comments	11	5.6	6
Nutrition Awareness	10	5.1	7
Fit. Equipment Access	9	4.7	8
Impact of Fitness	9	4.7	8
ATCOH program creates awareness	9	4.7	8
Availability of Resources	8	5.6	11
Staff Knowledge/ Resourcefulness	7	3.6	12
Currency/Accuracy of Resources	6	3.0	13
ATCOH program serves as a reminder about health issues	6	3.0	13
CPR/First Aid	5	2.5	15
Newsletter	5	2.5	15
Amount of Resources	5	2.5	15
Approachable Staff	5	2.5	15
Availability of Staff	5	2.5	15
Fitness Testing	4	2.0	20
Program Methods	4	2.0	20
Critical Incident Stress Debriefing Program	3	1.5	22
Employer Support	3	1.5	22
Timing of Programs	1	.5	24
Total	197	100	

Table 20 outlines the key weaknesses of the ATCOH program as identified by the Western Region Air Traffic Controllers who provided feedback via the 1994 evaluation questionnaire. Accessibility is considered to be a major weakness by almost sixteen percent of the respondents (n = 17). The ATCOH staff are located at the Area Control Centre at Edmonton's International Airport and as previously mentioned, the staff members visit the other locations a minimum of two times per year. Access to programs, staff and resources are limited in this sense.

Over twelve percent of the respondents question the value of the program with regards to the impact it has on the lifestyles of the Air Traffic Controllers in the Western Region. The administration and promotion of the services and activities of ATCOH have also been identified by the over nine percent of the respondents as being a weakness.

Other weaknesses include staff characteristics, the timing of services and the lack of management support. Isolation from the program and limited tower visits has also been identified as an ATCOH program weakness by the Air Traffic Controllers who responded.

Table 20

Weaknesses of the ATCOH Program

Theme	# of Responses	Valid %	Rank
Accessibility	17	15.9	1
Questionnable Value	13	12.1	2
Administration and Promotion of Visits	10	9.3	3
Staff	8	7.5	4
Timing of Programs and Services	8	7.5	4
Management Support	7	6.5	6
Isolation due to Location	7	6.5	6
Number of Visits	7	6.5	6
ATC Characteristics	6	5.6	9
Funding	5	4.7	10
Frequency of Visits	5	4.7	10
Tower Resources	4	3.7	12
Resource Material	3	2.8	13
Length of Visits	3	2.8	13
Limited Services	2	1.9	15
Lack of input by ATC's	1	.9	16
Contact during visits	1	.9	16
Total	107	100	

Table 21 outlines the respondents recommendations for program changes. Eighty five suggestions were identified as approaches that would enable ATCOH program staff to better meet the needs of the Air Traffic Controllers in the Western Region. Over forty two percent of the responses recommended additional programs as a way to better meet the needs of the Western Region Air Traffic Controllers. Some suggestions for additional programs included the following; access to fitness equipment and facilities/health club memberships,

more recreation programs, more frequent and regular fitness testing and consultation and increased sessions on lifestyle related issues

Close to eighteen percent of the respondents suggested different approaches to programming. Western Region Air Traffic Controllers have suggested some alterations in the services of the ATCOH program including increased personal contact and increased opportunities for one on one interaction with program staff.

More frequent tower visits was also high on the list of recommendations to program staff. Fourteen percent of the eighty five responses (n = 12) felt that an increased number of tower visits to outlying areas would better meet the variety of needs of the Air Traffic Controllers who are employed in the Western Region. Other recommendations are listed in Table 21.

Table 21

Program Recommendations

Theme	N	%	Rank
Offer Additional Programs	36	42.4	1
Alter Approach to Programs	15	17.6	2
More Frequent Visits	12	14.1	3
Promote Programs	6	7.1	4
Staff	5	5.9	5
Change Office Location	3	3.5	6
Funding	3	3.5	6
Increase CISD Training	2	2.4	8
Increase Accessibility	2	2.4	8
Increase Management Support	1	1.2	10
Total	85	100	

The 1994 evaluation questionnaire was designed by the researcher with reference to worksite health promotion and educational evaluation literature. In addition, it was designed in cooperation with staff from the Air Traffic Controller Occupational Health (ATCOH) program. Demographic data was collected and Air Traffic Controller personal and work profiles outlined. Awareness and participation levels were assessed and information regarding the reasons for, and for not, participating in the Air Traffic Controller Occupational Health programs and activities were outlined.

The Air Traffic Controllers' levels of participation and satisfaction with ATCOH program staff, resources and services were evaluated in addition to their perceptions regarding the benefits of the health promotion program. The Air Traffic Controllers in the Western Region were also provided with an opportunity to provide feedback regarding the strengths and weaknesses of the program and suggestions for program improvements.

A summary of the research and the findings of the 1994 evaluation questionnaire are described in Chapter Five. The results are discussed and recommendations are outlined. Towards the end of the chapter, the implications, conclusions and recommendations for further research are presented.

Chapter V

Discussion of Results

Introduction

Chapter Five contains five sections: a summary of the study; a summary of, and discussion about, the findings; implications of the findings; recommendations to ATCOH program staff; and recommendations for further research.

Summary of the Study

The purpose of this research was to conduct an evaluation of the Western Region Air Traffic Controller Occupational Health program. The researcher attempted to collect information about the background of the Air Traffic Controllers and to evaluate whether the ATCOH program increases understanding and application of healthier living strategies. Emphasis was placed on the Air Traffic Controllers' demographic data, participation, satisfaction level, perceptions regarding the benefits of the health promotion program and suggestions for program improvements. The results will be utilized to provide feedback to program staff and Western Region Air Traffic Controllers so as to best meet the needs of the key stakeholders.

In 1988, fourteen of the twenty Air Traffic Controller licenses that were lost in Canada were a result of lifestyle related health issues. Health and Welfare Canada administer and supervise occupational health programs for federal public servants however, due to a different set of occupational requirements, primarily based on licensing idiosyncrasies, Air Traffic Controllers are not covered under the usual standards.

Transport Canada, in recognizing the importance of a positive, long term approach to health for its' employees, responded by calling for proposals to offer health promotion services in five regions across Canada. The accepted proposals were those that offered comprehensive health promotion activities. In the Western Region, a Lifestyle Consultant offers health related educational services to Air Traffic Controllers employed in Alberta, the Northwest Territories and the Yukon Territories.

Due to the number of program changes that have occurred since the 1990 user feedback questionnaire, ATCOH program staff suggested that a more formal and comprehensive evaluation be completed to provide feedback to the Air Traffic Controller Occupational Health (ATCOH) program staff and to make recommendations for future programming initiatives.

The research framework was provided by Stake's evaluation model (1967). The following research questions were identified as being useful in the evaluation of the ATCOH program.

1. What are the demographic profiles of the Air Traffic Controllers for whom the ATCOH program exists, and how has the profile changed since the 1990 user feedback questionnaire?

2. What is the participation level of the Air Traffic Controllers?

3. What ATCOH services have been utilized by the Air Traffic Controllers?

4. For what reasons do the Air Traffic Controllers participate in the Air Traffic Controller Occupational Health program?

5. What additional services and resources would the Air Traffic Controllers identify as useful?

6. In what ways are the Air Traffic Controllers satisfied/dissatisfied with the Air Traffic Controller Occupational Health program?

7. According to the Air Traffic Controllers, how has their awareness of healthy lifestyle behaviors increased as a result of the Air Traffic Controller Occupational Health program?

8. According to the Air Traffic Controllers, what changes have they made in their lifestyle as a result of the Air Traffic Controller Occupational Health program?

9. According to the Air Traffic Controllers, what are the strengths and weaknesses of the ATCOH program and what could be done to better meet their health and lifestyle needs?

The evaluation questionnaire used in this study was designed by the researcher with reference to worksite health promotion and educational evaluation literature. As well, the Western Region Lifestyle Consultant and the National Program Administrator provided input with regards to the needs of the ATCOH program. The validity of the evaluation questionnaire was assessed by

University of Alberta master's students, ATCOH program staff and Western Region Air Traffic Controllers.

After the pilot and field tests were complete and ethics approval provided, the evaluation questionnaires were distributed. Surveys were sent to all of the Air Traffic Controllers (n = 253) employed in the Western Region on October 17, 1994. Reminder letters and replacement questionnaires were distributed to nonrespondents (n = 216) on November 7 and by December 11, 1994, 37.2% (n = 94) of the surveys had been returned.

Demographic data provided by the Western Region Air Traffic Controllers who responded were compared to information from Transport Canada's Western Region Air Traffic Services. This comparison was made to determine whether the respondents were representative of the total population of Air Traffic Controllers employed in the Western Region.

Data from the returned questionnaires were analyzed in two ways. Responses to closed questions were statistically analyzed using SPSS (Statistics Package for Social Sciences) while responses to open ended questions were compiled manually and analyzed thematically. The information from both closed and open ended questions was reported according to the research sub-questions outlined and the antecedant, transaction and outcome information from Stake's (1967) model of evaluation.

Discussion and Summary of the Findings

In this section the evaluation results are summarized according to Stake's evaluation model and the research sub-questions. In addition, the findings are discussed and conclusions are provided.

Due to a final response rate of slightly over thirty seven percent, the researcher contacted Transport Canada's Air Traffic Services to gain access to Western Region Air Traffic Controller demographic data. Gender, age and work location information made it possible for the researcher to assess whether or not the evaluation questionnaire respondents were representative of Western Region Air Traffic Controllers. The data provided by Air Traffic Services in the Western Region confirmed that the respondents were representative of Western Region Air Traffic Contollers with respect to gender and age and that they slightly over represent Air Traffic Controllers who are employed at the outlying tower control units (Table 3, page 48).

Summary of Antecedant Information

Antecedant information relates to the factors which lead to the development of an educational program. Background information was provided by ATCOH program staff at the initiation of the research to demonstrate the need for the occupational health program for Air Traffic Controllers. Further antecedant information was collected to identify Air Traffic Controller demographic data, participation levels and reasons for Air Traffic Controller involvement in the ATCOH program.

Demographic Profiles.

The researcher attempted to understand more about the personal and work profiles of Western Region Air Traffic Controllers. The first antecedant sub-question requested information about the backgrounds and characteristics of the respondents. Questionnaire results indicated that the respondents were primarily of male gender (95.7%) and that almost eighty five percent are over the

age of thirty five. Almost all (99%) of the Western Region Air Traffic Controllers have completed highschool, just over one third (n = 32) have completed a diploma or certificate at a post secondary institution and close to twenty percent (n = 17) of the respondents have completed an university degree.

Sixty five percent (n = 60) of the respondents had worked in the Air Traffic Control field for over sixteen years. Eighty eight percent (n = 83) of the respondents gross over $40 000 annually with over forty percent of them making between $70 000 and $99 999 per year and over ten percent making over $100 000 annually. Sixty two percent of the respondents represented Air Traffic Controllers working at a Tower Control Unit (n = 59) while the remaining thirty eight percent (n = 33) work at the Area Control Centre at Edmonton's International Airport.

The comparison made between the demographic data of the 1990 user feedback questionnaire and the 1994 evaluation questionnaire indicates that the percentage of Western Region Air Traffic Controllers over the age of forty five has increased in the past four years.

Participation Level.

The second antecedant research sub-question examined the level of participation of the responding Western Region Air Traffic Controllers. While all but two percent of the respondents were aware of the ATCOH program, eighty percent (n = 75) indicated that they had participated in it's services. As well, the newsletter which is published and distributed by the ATCOH program staff has been read by close to ninety three percent (n = 87) of the Air Traffic Controllers who responded. 'From Widebodies to Ultralites' is read by one third of the

respondents ten to twelve times per year and four to nine times by almost forty percent of the Western Region Air Traffic Controllers who provided feedback.

Reasons For And For Not Participating.

The third research sub-question sought information about the Air Traffic Controllers' reasons for, and for not, participating in the ATCOH program. The most common reasons for the Air Traffic Controllers' participation in the services that ATCOH provides are due to interests in improving awareness of health and lifestyle issues and improving health and reducing risk. Reasons for Western Region Air Traffic Controllers participation also include; their concern with their health, convenience of the programs and services and interest in making lifestyle changes.

The responding Air Traffic Controllers also provided some insight into the reasons why they do not participate in the ATCOH program. Sixty five percent of the Air Traffic Controllers who have not participated in ATCOH services (n = 17) have not because they are involved in health and lifestyle activities elsewhere. Seventeen percent (n = 5) of those who do not take part in the Air Traffic Controller Occupational Health program are afraid that the services are not confidential and an additional seventeen percent do not care to be involved.

Summary of Transaction Information

Transaction information included data about the Air Traffic Controllers' utilization of, and recommendations for, ATCOH services and resources.

Use of Services.

The services of the ATCOH program were listed in the evaluation questionnaire and respondents indicated those in which they had participated. According to the responding Western Region Air Traffic Controllers, the majority (72% and 61%) have participated in cholesterol and blood pressure screening. Close to thirty nine percent of the respondents had participated in Cardio-Pulmonary Resuscitation training and an additional thirty nine percent had utilized ATCOH resources.

Thirty one percent of the respondents had been involved in an activity in which healthy eating habits were the focus and fitness related activities also attracted a number of participants. Physical fitness educational sessions such as fitness assessments, exercise programs and exercise activities were a commonly utilized service in which twenty seven, twenty four and nineteen percent of the Air Traffic Controllers had participated in at some point in the past two years.

Additional Services and Resources Identified as Useful.

Air Traffic Controllers were provided with an opportunity to supply suggestions for additional services and resources. Data from sub-question five revealed a total of fifty suggestions that may be of use to the Western Region Air Traffic Controllers. The most commonly suggested resource or service identified by the survey respondents was for the ATCOH program to offer a wide variety of lifestyle sessions including mandatory, detailed sessions at the Air Traffic Controllers' annual refresher. Respondents also suggested that the program staff inquire into the possibility of, and organize, group membership rates at local community fitness facilities for Air Traffic Controllers region wide. Another

suggestion of the respondents was to increase access to fitness programs through a variety of means such as supplying towers with fitness equipment or setting up interunit competitions. Additional suggestions are outlined in Table 11 (p. 70).

Summary of Outcome Information

Outcome information refers to the perceived benefits, losses and achievements of an educational initiative. Outcome information was gathered to assess the extent to which the Western Region Air Traffic Controller Occupational Health program services and resources were contributing to the health and lifestyle needs of the Air Traffic Controllers.

Satisfaction and Dissatisfaction with the ATCOH Program.

The first outcome research sub-question requested information about the satisfaction level of the respondents with regards to ATCOH program staff, resources and services. Overall, those who provided feedback were very pleased with the quality of ATCOH program staff. Over fifty percent of the respondents strongly agreed, and between thirty five and forty percent agreed, with statements about the program staff being professional and easy to approach. An additional forty three and forty nine percent of the Air Traffic Controllers strongly agreed, and over forty percent of the respondents agreed, with statements that described ATCOH staff as being qualified and resourceful (Table 13, page 73).

Responses to statements about the quality of the ATCOH program resources were also rated positively by the Western Region Air Traffic Controllers. Data provided by the Air Traffic Controllers indicates that the

respondents are highly satisfied with the applicability, content, relevance and currency of resource information provided by the ATCOH program. Over ninety percent of the respondents either agreed or strongly agreed with statements that described ATCOH resources as being relevant, informative and applicable to the lives of the Air Traffic Controllers.

Western Region Air Traffic Controllers were also asked to rate their levels of satisfaction with ATCOH program services by indicating their level of agreement or disagreement with a number of statements. Over ninety percent of those who provided feedback agreed or strongly agreed that the ATCOH programs reflect the goal of a long-term healthy lifestyle. The majority of the responding Western Region Air Traffic Controllers indicated that they are satisfied with the ways in which their needs and goals are considered during ATCOH programs. It is important to recognize however, that the Air Traffic Controllers who responded to the survey suggested that they were less satisfied with the value of the outlying tower visits. As well, they responded less positively to statements about the convenience of ATCOH services and the timing of tower visits. Between thirty and fifty percent of the Air Traffic Controllers who provided feedback via the 1994 evaluation questionnaire disagreed or strongly disagreed with statements about the value and appropriate timing of outlying tower visits.

Perceptions Regarding Benefits of the ATCOH Program.

The second research sub-question pertaining to outcome information assessed the respondents perception of the benefits of the ATCOH program. The results of the evaluation questionnaire strongly indicate that the Air Traffic Controllers' awareness of lifestyle issues of has increased as a result of the Air

Traffic Controller Occupational Health program. Close to ninety five percent of the respondents agreed or strongly agreed that they are encouraged to continue leading a healthy lifestyle. In addition, the Air Traffic Controllers indicated that they are better informed about their health as a result of the ATCOH programs and services. Over ninety percent of the responding Air Traffic Controllers feel more motivated to lead a healthier lifestyle and between eighty one and eighty eight percent indicated that they have a desire to learn more about health issues and the relationship between their lifestyle and health as a result of the services of the ATCOH program.

The influence of the Air Traffic Controller Occupational Health program on the workplace was also assessed by looking at the perceptions of the Western Region Air Traffic Controllers who completed the survey. According to the feedback provided, the ATCOH program has helped create a work environment that is more flexible in terms of creating opportunities for healthy living and is more supportive of healthy lifestyles.

Over sixty seven percent of the respondents indicated that they discuss health issues with their coworkers more frequently as a result of the program and over half of the respondents indicated that, as a result of the Air Traffic Controller Occupational Health program, they are constantly reminded that they have control over the decisions they make that affect their health. Unfortunately, over forty percent of the respondents disagreed or strongly disagreed with the statement "I feel that I have more support from the other controllers to alter my lifestyle than I did prior to the program."

Lifestyle Changes.

Sub-question three of the outcome information sought data about the lifestyle changes that the ATCOH program assisted Western Region Air Traffic Controllers in making. According to the responses in the evaluation questionnaire, the majority of the Air Traffic Controllers have made changes to reduce their risk of disease and are more active. In addition, eighty three percent of the respondents have changed their eating habits and over seventy seven percent have implemented some healthy living tips into their life.

Although the statements were not applicable to everyone involved, the results indicate that the majority of the respondents manage their stress more effectively and use more effective coping skills as a result of the influence of the Air Traffic Controller Occupational Health program. In addition, the majority of the Air Traffic Controllers who smoked in the past, had either cut down or quit smoking since the inception of the occupational health program.

Strengths and Weaknesses of the ATCOH Program.

The strengths and weaknesses of the Air Traffic Controller Occupational Health program were addressed by open ended questions in section four of the evaluation questionnaire. The type of ATCOH resources and the characteristics of the program staff accounted for over twenty percent of the responses identified as strengths of the occupational health program. The respondents also suggested other strengths of the program including blood pressure and cholesterol screening.

Major weaknesses, as identified by those who provided feedback, include the lack of accessibility to Air Traffic Controllers outside of Edmonton and the questionable value of the program with respect to the impact it has on the lifestyles of the Air Traffic Controllers. As well, the administration and promotion of the visits to outlying towers were identified as being a weakness of the Air Traffic Controller Occupational Health program.

Suggestions for Program Improvement.

Three primary themes evolved out of the analysis of program recommendations provided by the responding Air Traffic Controllers. The most commonly suggested recommendation, which accounted for forty two percent of the eighty five responses, was for the ATCOH program to offer additional services such as lifestyle information sessions, fitness facility memberships and recreation and sport programs. In addition, fifteen percent of the responses indicated that the format of some of the programs should be altered to increase personal contact. More frequent tower visits were also among the recommendations provided by the 1994 Western Region Air Traffic Controller evaluation questionnaire participants.

Implications of the Findings

Worksite health promotion programs have been in existance since the early 1600's and although the focus of these programs has changed, what remains is that employees are able to take advantage of opportunities to enhance their wellbeing. Participation in health promotion activities may, in turn, influence employee productivity.

It has been noted that North Americans spend over sixty percent of their waking hours at work (Dooner, 1990/91). The workplace is recognized as an appropriate setting for health promotion because of the accessible, captive audience (Pencak, 1991) and established lines of communication (Shephard, 1991; Stewart, 1990/91; Pencak, 1991). The worksite of the Air Traffic Controllers, as such, is an ideal setting for health promotion activities.

The fact that the Air Traffic Controllers are, in this case, the audience for the promotion of healthy lifestyles is interesting in that only seven years ago, seventy percent of the Air Traffic Controller license losses in Canada were due to unhealthy lifestyle behaviors (Air Traffic Controller Occupational Health program, 1994). The Air Traffic Controllers' interest in improving health and reducing risks has been noted in the data collected by the 1994 evaluation questionnaire.

Comprehensive health promotion programs addressing a wide variety of health related issues are crucial in promoting the optimal employee health (Shephard, 1991). The Western Region Air Traffic Controllers support this concept. In the 1994 evaluation questionnaire they recommended a wide variety of services and programs to ATCOH program staff as suggestions to best meet their health related needs.

Previously designed methods of communication between Air Traffic Control worksites have proven to be effective for health promotion activities. Data from the 1994 evaluation questionnaire demonstrate that the level of awareness of the Air Traffic Controller Occupational Health program is high and that the program newsletter 'From Widebodies to Ultralites' is a good medium

for informing the Air Traffic Controllers about healthy living strategies and upcoming program activities.

Barriers which prevent individuals from participating in health promotion activities are also limited when programs are offered at the worksite. The Air Traffic Controllers who responded to the evaluation questionnaire commented on the accessibility of the services of the Air Traffic Controller Occupational Health program. As well, they indicated that the program acts as a constant reminder of their control over their health.

Erfurte, Foote and Heirich (1991) recognize the potential of worksite health promotion activities as their ability to offer follow up programs. The Air Traffic Controller Occupational Health program has been in effect for over seven years and demographic data collected via the 1994 evaluation questionnaire indicates that the majority of Western Air Traffic Controllers who responded have over sixteen years of work experience in the Air Traffic Control field. Pencak (1991, p. 234) stresses the fact that ". . . sustained employment means that sustained interventions are feasible. . . ." The combined effect of long term employment and ongoing worksite health and lifestyle education are bound to produce better effects than one time, irregular health promotion activities at work locations.

The worksite health promotion program was evaluated using Stake's educational evaluation model (1967). Data related to antecedant information indicated that the majority of the Air Traffic Controllers are males who are over the age of thirty five. A comparison of demographic data from the 1990 user feedback questionnaire and that of the 1994 evaluation questionnaire, pointed out that the percentage of the Air Traffic Controllers over the age of forty five

have increased in the past four years. As a result, ATCOH programs and services should encompass a variety of health and lifestyle educational initiatives and activities that relate to not only the general needs of an aging male population, but needs that are specific to the working conditions of Air Traffic Controllers.

According to the evaluation questionnaire feedback, eighteen percent of the responding Air Traffic Controllers do not participate in the activities of the Air Traffic Controller Occupational Health program. The data provided by the respondents indicated that over sixty five percent of the nonparticipants participate in health and lifestyle activities elsewhere however, one must wonder about the status of the remaining thirty five percent. Stange, Strogatz, Schoenback, Shy, Dalton & Cross (1991) have suggested that the impact of a health promotion program may be limited in that it may not attract employers who have high risk behaviors. Stange et al (1991) warn that the creation of a wellness culture may also involve the risk of alienating individuals who do not lead healthy lifestyles. It is important that the Air Traffic Controller Occupational Health program staff are aware of this alienating feature of worksite health promotion programs and take steps towards encouraging nonparticipants to in some way increase their awareness of healthy lifestyles.

It was in 1988 when Transport Canada decided to implement health promotion programs in five regions across Canada. The literature often recognizes the motivation behind this movement as being one related to the reduction of health risks through the application of healthier living strategies (Wheat, Graney, Shachtman, Ginn, Patrick & Hulka, 1992; Shi, 1992; Wolfe, Slack and Rose-Hearn, 1993; Pencak, 1991). The ATCOH program, according to the respondents of the 1994 evaluation questionnaire, has played a key role in the

promotion of healthy lifestyles. Several features were recognized by the respondents. Western Region Air Traffic Controllers were highly satisfied with ATCOH program staff and positively rated statements describing the staff members as professional, easy to approach, qualified and resourceful. The Western Region Air Traffic Controllers also described the resource material as being applicable, informative, relevant and up to date.

Moxley (1990) and Pencak (1991) have noted that worksite health promotion programs can increase the employees' awareness of healthy living strategies. Respondents to the 1994 evaluation questionnaire indicated that their awareness of healthy lifestyles has increased as a result of the Air Traffic Controller Occupational Health program. In section three of the evaluation questionnaire, the respondents indicated that as a result of the ATCOH program, they are more encouraged to lead a healthy lifestyle and are better informed, and have a desire to learn more, about their health. As well, the respondents have indicated that they better understand the relationship between their lifestyle and their health.

Health education and awareness programs have also been documented to have resulted in lifestyle behavior changes by a number of authors (Smith & Bobroff, 1991; Hannah, Hannah, Mosher & Vardy, 1988; Kellerman, Felts & Chenier, 1992; Pender, Walder, Sechrist & Frank-Stromberg, 1990). Healthy lifestyle changes were also noted by the respondents of the 1994 evaluation questionnaire. Western Region Air Traffic Controllers have made changes in their lifestyle to reduce risks. As well, they are more active, have altered their eating habits and have implemented healthy living strategies into their lives.

The Air Traffic Controller Occupational Health program offers the three levels of health promotion programming described by O'Donnell (1986). The first level aspires to increase levels of awareness while the goal of second level programming is to support health related changes. The third level outlined by O'Donnell (1986) involves ongoing programming to increase the level of support for healthy living within an organization's environment thereby, creating a workplace that encourages healthy lifestyles. Western Region Air Traffic Controllers also suggested that the ATCOH program has played a key role in creating an atmosphere which is more flexible in terms of creating opportunities for health and is more supportive of healthy lifestyles.

Increased interaction among employees is also recognized as being a benefit of worksite health promotion programs (Bailey, 1990; Dooner, 1990/91; Hollander & Lengermann, 1988; Moxley, 1990; Pencak, 1991; IRSA; The Association of Quality Clubs, 1990). The responding Air Traffic Controllers did indicate that they discussed health related issues more freely with their coworkers however, they also recognized that they did not feel as if they have more support from their colleagues with regards to making health related lifestyle changes.

There is a probability that the findings of the ATCOH program evaluation are representative of the views of the Air Traffic Controllers in the Western Region because of the similarity in the demographics of the respondents and those provided by Air Traffic Services. It should be noted however, that the data do not necessarily reflect the views of other Air Traffic Controllers in Canada. Generalizability is limited.

Based on the findings of the 1994 evaluation questionnaire, two forms of recommendations are made, recommendations to ATCOH staff and recommendations for further research.

Recommendations to Western Region ATCOH Program Staff

The insights gained from the evaluation questionnaire provide an understanding of the achievements of, and challenges faced by, the Western Region Air Traffic Controller Occupational Health (ATCOH) program. In this section, results from the data collection phase are interpreted to provide some direction for ATCOH program staff. Six recommendations for improvements to the ATCOH program are included in the following.

1. It is recommended that the Western Region ATCOH program continue to offer broad levels of programming in a variety of ways to increase awareness, to enhance the ability of Air Traffic Controllers in the Western Region to lead health promoting lifestyles and to continue to create a work environment that accepts, promotes and provides opportunities for maintaining healthy lifestyles.

2. It is recommended that accessibility to services and resources be increased by increasing the frequency of outlying tower visits and by varying the times in which visits are made (e.g. evenings, weekends, mornings and afternoons).

3. It is recommended that the detail in which tower visits are administered and promoted is increased so that the Air Traffic Controllers are aware of the date, purpose and goals of each visit at least two months in advance.

4. It is recommended that future programs include a variety of lifestyle education sessions and that additional time is allotted for personal contact with program staff.

5. It is recommended that future programs include more of a focus on fitness and that the program staff look into the possibility of increasing access to fitness facilities by

    a) providing equipment to outlying tower locations

    b) contacting fitness clubs in local communities with regards to the cost of group memberships.

6. It is recommended that Western Region Air Traffic Controller Occupational Health program staff develop and implement a means of program evaluation that is both measurable and performed on a regular basis (e.g.. annually).

Recommendations for Further Research

The area of worksite health promotion programming provides a wide range of opportunities for further research. Two recommendations follow:

1. It is recommended that this study be replicated in the other four regions of the Air Traffic Controller Occupational Health (ATCOH) program. Such replication could also include perceptions of Regional Lifestyle Consultants, the National Program Administrator and Air Traffic Control Site Managers.

2. Factors that motivate employees to participate in worksite health promotion programs could be investigated to identify those that result in continued participation and application of material.

Summary

This study was conducted to evaluate the Western Region Air Traffic Controller Occupational Health program and to provide feedback to program staff. The ATCOH program appears to be meeting the needs of the Western Region Air Traffic Controllers for up to date health and lifestyle information. Results indicate that the learners are satisfied with the ATCOH program staff, resources and services and that the ATCOH program has influenced the responding Air Traffic Controllers' decisions with regards to healthy living practices.

Future planning initiatives should consider the demographics of the Western Region Air Traffic Controllers and a variety of programs that are applicable to the program population and have immediate practical application. In addition, the detail of administrative procedures should be enhanced and barriers to accessibility addressed.

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Appendix A: Objectives of the Air Traffic Controller Occupational Health Program

The goals of the Air Traffic Controllers' Occupational Health (ATCOH) program are as follows:

1.0 To promote and foster an ongoing awareness of the benefits of a well-balanced and healthy lifestyle.

2.0 To help controllers in the identification of those lifestyle habits that are a barrier to the attainment of a high level of physical, mental and social health.

3.0 To advise and support those individuals who would like to make changes towards more positive lifestyle habits.

4.0 Through the promotion of overall wellness, to assist employees and management to achieve optimal effectiveness of the operation units and consequently high standards of flight traffic safety over Canada.

5.0 To provide advice and assistance on creating and maintaining a healthy working environment and atmosphere.

6.0 To provide specialized support in times of emergency and crisis.

Appendix B: Letter of Approval

Air Traffic Controller Occupational
Health Program
Edmonton International Airport
P.O. Box 9867
Edmonton, Alberta
T5J-2T2

October 15, 1994.

Yvette Penman
10710 - 67 Avenue
Edmonton, Alberta
T6H-1Z9

Dear Yvette,

On behalf of the Western Region Air Traffic Controller Occupational Health program, I grant you permission to carry out your research study. The research project on evaluation of the ATCOH program will be most beneficial for continued quality health and lifestyle services.

Enclosed is a copy of my correspondence with the Program Manager in Ottawa.

I am looking forward to receiving a copy of your research results and wish you much success in completing your Master's Degree.

Sincerely,

Elaine Meighen
ATCOH Consultant

Appendix C: Correspondence with Air Traffic Controllers

September 29, 1994

To: Western Region Air Traffic Controller

From: Yvette Penman, Masters candidate, University of Alberta

RE: Feedback for Air Traffic Controller Occupational Health (ATCOH) program evaluation questionnaire

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Presently I am working on a masters degree at the University of Alberta. One of the requirements is to complete a research project and as a result, I am organizing an evaluation for the Western Region Air Traffic Controller Occupational Health (ATCOH) program. Prior to sending questionnaires out to all Air Traffic Controllers in the Western Region I would like to get your feedback with regards to the content, questions and format of the survey instrument.

In addition to meeting the evaluation goals ATCOH program staff have outlined, the survey takes into consideration information from worksite health promotion and educational evaluation literature. The Air Traffic Controllers' demographics, perceptions regarding the benefits of the ATCOH program, and participation and satisfaction levels will be assessed. In addition, the Air Traffic Controllers will be provided with an opportunity to supply program suggestions. The impact of the program will be assessed and the information that is collected will also be used in future planning initiatives.

I have enclosed a copy of the introductory letter and evaluation survey and would like to request your feedback. Please read through the letter and answer the questions in the survey. At this point, I am not focusing on the responses as much as I am interested in your experience of completing the questionnaire. I would appreciate it if you are able to provide written feedback to me within a couple of days. It is not necessary for you to identify yourself, however, if you are willing, it would be valuable for me to receive verbal feedback in addition to the comments you write on the survey itself. **If you are willing to speak with me about the survey please sign the last page of the survey and provide a phone number were I can contact you between October 3 and 12.**

Thank you very much for your input. I look forward to receiving some feedback from you with regards to the survey. If you have any questions regarding the evaluation, please do not hesitate to call me at 436-9855.

Yours sincerely,

Yvette Penman

October 17, 1994.

Dear Western Region Air Traffic Controller,

RE: AIR TRAFFIC CONTROLLER OCCUPATIONAL HEALTH (ATCOH) PROGRAM EVALUATION

Transport Canada has supplied funding for Air Traffic Controller Occupational Health Services for the past six years to provide support to Air Traffic Controllers in their efforts to maintain their License Validation Certificate. A program evaluation is currently being completed to assess the effectiveness of this program in the western region.

At present, I am undertaking graduate research as part of the requirements for a Masters degree in Adult Education at the University of Alberta. My research study is a program evaluation of the effectiveness of the Air Traffic Controller Occupational Health program and the data that are gathered will be used to provide feedback and suggestions to ATCOH program staff. As well, they will be published in the monthly newsletter that is distributed to all Western Region Air Traffic Controllers.

The enclosed questionnaire provides you with an opportunity to supply feedback with regards to the Air Traffic Controller Occupational Health program. You are in no way obligated to complete this survey. Your participation in this evaluation is voluntary and all information will be kept strictly confidential.

In order to effectively evaluate the ATCOH program in the western region, I need your input. Please complete the attached questionnaire and mail it back to me by November 25, 1994, using the enclosed envelope. A reminder letter will be sent to you if the questionnaire has not been received by November 8, 1994. The questionnaire will take approximately 15 to 20 minutes to complete.

Thank you for your cooperation and participation. Inquiries regarding this research are most welcome. If you have any questions or comments, you can reach me at 436-9855. I look forward to your response.

Sincerely,

Yvette Penman
Master's candidate
University of Alberta

Elaine Meighen
Health and Lifestyle Coordinator
Air Traffic Controller Occupational Health

Encl.

November 8, 1994.

Dear Western Region Air Traffic Controller,

RE: AIR TRAFFIC CONTROLLER OCCUPATIONAL HEALTH (ATCOH) PROGRAM EVALUATION

A couple of weeks ago a letter was sent to you requesting your input for the ATCOH program evaluation. Because I am very interested in your feedback, I have enclosed a replacement survey.

By completing this questionnaire, you will assist the Air Traffic Controller Occupational Health staff in their continued efforts to develop new programs and services to meet the needs of Air Traffic Controllers like yourself. We value your input and rely upon your feedback to guide the future direction of the ATCOH program.

You are in no way obligated to complete this survey. Your participation in this evaluation is voluntary and all information will be kept strictly confidential. The questionnaire will take approximately 15 to 20 minutes to complete. Please take time to fill in the survey and return it to me using the self addressed envelope that is enclosed.

Thank you for your cooperation and participation in this evaluation. If you have any questions or comments regarding the survey, you can reach me at 436-9855. I look forward to your response.

Sincerely,

Yvette Penman
Master's candidate
University of Alberta

Elaine Meighen
Health and Lifestyle Coordinator
Air Traffic Controller Occupational Health

Encl.

December 12, 1994.

Dear Western Region Air Traffic Controller,

Thank you very much for participating in the Air Traffic Controller Occupational Health program evaluation. Thirty seven percent of the questionnaires have been returned and the information you have provided will be analyzed prior to the new year. Again, I would like to emphasize the fact that all responses remain completely anonymous.

The feedback you have provided will be used to evaluate the effectiveness of the Air Traffic Controller Occupational Health program and to outline strategies and ATCOH program changes so that it can better meet the needs of Western Region Air Traffic Controllers.

The overall results of the evaluation will be published in the January/February newsletter and a more detailed summary of the results will be available in February, 1995. Please contact Elaine Meighen at 890-8359 if you wish to receive a copy of the program evaluation summary.

I deeply appreciate your cooperation and participation in the ATCOH program evaluation and wish you and your family a very Merry Christmas and a happy, healthy New Year.

Sincerely,

Yvette Penman
Master's candidate
University of Alberta

Elaine Meighen
Health and Lifestyle Coordinator
Air Traffic Controller Occupational Health

February 6, 1995

To: Ken Soady
Director, Western Region Air Traffic Services

From: Yvette Penman,
Master's candidate, University of Alberta

RE: Demographic information for the Air Traffic Controller Occupational Health (ATCOH) program evaluation

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Presently, I am working on a master's degree at the University of Alberta and one of the requirements is to complete a research project. My research is an evaluation of the Western Region Air Traffic Controller Occupational Health (ATCOH) program. In October I distributed an evaluation questionnaire to all of the Air Traffic Controllers in the Western Region and as of December 11, I have received slightly over thirty seven percent of them back.

After analyzing and reporting the data, my research supervisor has recommended that I try to access demographic information on all of the Western Region Air Traffic Controllers. Elaine Meighen, Coordinator of the Western Region ATCOH program, referred me to Rick Johnson, the Regional Supervisor of ATC Tower Operations to access the data. I spoke to Rick last week and although he had suggested that releasing the overall demographics to me was not a problem, he felt that I should contact you for approval.

Rick has researched the possibility of attaining the required demographic data and his colleague, Brenda Cooper has notified him that she is able to provide the information. Access to the demographics will provide a means of increasing my confidence, as a researcher, that the feedback I have received from the responding Air Traffic Controllers (n=94) is representative of those in the Western Region.

The program evaluation is in it's final stages and feedback will be provided to the Air Traffic Controller Occupational Health Program staff for use in future planning initiatives. I have attached a copy of the demographic information and categories I have outlined for the ATCOH program evaluation and would greatly appreciate your cooperation. I must emphasize that in no way will individual data be used.

If you have any questions or concerns regarding my request please feel free to contact me during the day at 472-5394 or in the evening at 436-9855. Your assistance is greatly appreciated.

Demographic Data Required	% of Western Region ATC's
Gender	
Female	
Male	
Age	
> 50 years of age	
40 - 49 years of age	
30 - 39 years of age	
20 - 29 years of age	
Level of Education	
Did not complete Highschool	
Highschool	
Post-Secondary Certificate	
College or Technical Institute Diploma	
University Degree	
Work Experience	
< 1 year	
1 - 5 years	
6 - 10 years	
11 - 15 years	
16 years and over	
Gross Annual Income	
$25 000 - $39 999/year	
$40 000 - $69 999/year	
$70 000 - $99 999/year	
$100 000 and over	
Work Site	
ACC	
Tower or TCU	

February 9, 1995

To: Rick Johnson
Regional Supervisor of Tower Operations

From: Yvette Penman,
Master's candidate, University of Alberta

RE: Demographic information for the Air Traffic Controller Occupational Health (ATCOH) program evaluation

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As per our discussion yesterday I am writing with the change in age categories for the demographic data on the Western Region Air Traffic Controllers. I received the 1990 User Feedback Questionnaire from Ottawa yesterday and found that the data for this survey was categorized differently than the 1994 data. As a result, I decided to alter the age categorization for comparison purposes. It will be as follows:

Age Characteristics of Western Region Air Traffic Controllers

> 55 years of age

45 - 54 years of age

35 - 44 years of age

25 - 34 years of age

18 - 24 years of age

In addition to the demographic information I have requested it would be helpful if you would be able to share any information about the following topics.

1. The average cost to train an Air Traffic Controller.
2. The average cost of sick leave per Air Traffic Controller in the Western Region.
3. The cost of lifestyle related license losses in the Western Region or across Canada.

Please feel free to contact me during the day at 472-5394 or in the evening at 436-9855 if you have any questions or concerns regarding my request. Your assistance is greatly appreciated.

With thanks,

Appendix D: Evaluation Questionnaire Instrument

Air Traffic Controller Occupational Health Program Evaluation

This survey provides you with an opportunity to supply feedback to the ATCOH program. Your participation is voluntary and all information is confidential.

Section 1 - Participation Information

A. Are you aware of the health promotion services offered by the Air Traffic Controller Occupational Health (ATCOH) program? (Please check one)

___ [1] Yes (Go to question B)
___ [2] No (Go to section 5, page 6)

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B. The ATCOH program distributes a newsletter entitled "From Wide Bodies to Ultra Lites" to all Air Traffic Controllers in the western region on a monthly basis. Approximately how often have you read this newsletter in the past two years? (Please check one)

___ [1] 10 - 12 times/year)
___ [2] 7 - 9 times/year)
___ [3] 4 - 6 times/year)
___ [4] 1 - 3 times/year)
___ [5] Never

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C. Have you in any way utilized the services or resources offered by the Air Traffic Controller Occupational Health (ATCOH) program? (Please check one)

___ [1] Yes (Go to question D)
___ [2] No (Go to question F)

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D. Please indicate the ATCOH programs or educational sessions you have participated in, either as an individual or in a group setting, in the past two years. (Please check all that apply)

___ [1] Active Living
___ [2] Alcohol/Drug Counselling
___ [3] Back Care Program
___ [4] Blood Pressure Screening
___ [5] Cancer Awareness
___ [6] Canoe or Cycling Trip
___ [7] CardioPulmonary Resuscitation (CPR) Training
___ [8] Cholesterol Screening
___ [9] Competitions between Units
___ [10] Computerized Health Hazard Appraisal
___ [11] Consultation regarding family matters/interpersonal relationships
___ [12] Critical Incidence Stress Debriefing (CISD)
___ [13] Eating Habits
___ [14] Exercise Programming
___ [15] First Aid Training
___ [16] Health Fair
___ [17] Health Information during Refresher
___ [18] Heart Disease
___ [19] Mental Health
___ [20] Physical Fitness
___ [21] Physical Fitness Appraisal
___ [22] Recreation Opportunities
___ [23] Referral to other health professional or resource by ATCOH staff
___ [24] Resources (books, tapes, pamphlets)
___ [25] Safety Seminars
___ [26] Self Examination
___ [27] Shift Work
___ [28] Smoking Cessation
___ [29] Stress and/or Stress Management
___ [30] Walks and/or Runs
___ [31] Weight Control
___ [32] Weight Check
___ [33] Other: _____
___ [34] Other: _____
___ [35] Other: _____

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E. Please indicate the reasons why you participate in the ATCOH program. (Please check all that apply)

___ [1] I am interested in improving my awareness of health issues.
___ [2] I have concerns about my health.
___ [3] I am interested in making changes in my lifestyle.
___ [4] To improve my health and/or reduce health problems.
___ [5] The programs and services are convenient.
___ [6] Other: _____
___ [7] Other: _____
___ [8] Other: _____

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Please proceed to section 2, page 2

F. Please indicate the reasons why you do not participate in the ATCOH program. (Please check all that apply)

___ [1] I am not interested in improving my awareness of health issues.
___ [2] I have no concerns about my health.
___ [3] I am not interested in making changes in my lifestyle.
___ [4] I am afraid that the services are not confidential.
___ [5] The workplace is not an appropriate place to promote health.
___ [6] I have not been on shift when ATCOH services have been offered.
___ [7] I participate in health and fitness activities elsewhere.
___ [8] I do not care to be involved.
___ [9] I do not have any time.
___ [10] Other: _____
___ [11] Other: _____
___ [12] Other: _____

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Please proceed to section 5, page 6

Section 2 - Satisfaction with Quality of ATCOH Programs

The following statements relate to your satisfaction level with the Air Traffic Controller Occupational Health (ATCOH) program staff, services and resources. Using the scale shown below, please indicate the extent to which you agree or disagree with the following statements by circling the number on the scale that best approximates your answer.

1	2	3	4	5
Strongly Disagree (SD)	Disagree (D)	Not Applicable (NA)	Agree (A)	Strongly Agree (A)

A. Satisfaction with the quality of the Air Traffic Controller Occupational Health (ATCOH) program staff.

		SD	D	NA	A	SA
1.	Contact with program staff has been valuable.	1	2	3	4	5
2.	ATCOH staff are difficult to approach.	1	2	3	4	5
3.	ATCOH staff are unprofessional.	1	2	3	4	5
4.	ATCOH staff are stimulating educators.	1	2	3	4	5
5.	ATCOH staff are not resourceful.	1	2	3	4	5
6.	ATCOH staff are not qualified.	1	2	3	4	5
7.	If the staff are unable to help me they will provide me with a referral.	1	2	3	4	5
8.	What I discuss with ATCOH staff remains confidential.	1	2	3	4	5

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COMMENTS: _____

_____

B. **Satisfaction with the quality of Air Traffic Controller Occupational Health (ATCOH) resources.**

		SD	D	NA	A	SA
1.	The information covered in the newsletter is relevant.	1	2	3	4	5
2.	ATCOH resources are not informative.	1	2	3	4	5
3.	ATCOH resource information is out of date.	1	2	3	4	5
4.	ATCOH resources are accurate.	1	2	3	4	5
5.	External resources are made available to me when it is appropriate.	1	2	3	4	5
6.	Resources provided by the ATCOH program enable me to make better decisions about my lifestyle.	1	2	3	4	5
7.	ATCOH resource information is not applicable to me as an Air Traffic Controller.	1	2	3	4	5

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COMMENTS: _____

_____

C. **Satisfaction with the quality of Air Traffic Controller Occupational Health (ATCOH) services.**

		SD	D	NA	A	SA
1.	ATCOH programs are held at convenient hours.	1	2	3	4	5
2.	ATCOH programs held at inconvenient locations.	1	2	3	4	5
3.	ATCOH programs do not create a supportive work setting.	1	2	3	4	5
4.	The timing of tower visits is appropriate.	1	2	3	4	5
5.	Tower visits are not valuable.	1	2	3	4	5
6.	The ATCOH program reflects the goal of a long-term healthy lifestyle.	1	2	3	4	5
7.	My needs and goals are not considered during ATCOH programs.	1	2	3	4	5
8.	ATCOH programs provide an opportunity for all Air Traffic Controllers to participate.	1	2	3	4	5
9.	The ATCOH program reflects a comprehensive and holistic approach to healthy living.	1	2	3	4	5

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COMMENTS: _____

_____

Section 3 - Perceived Benefits

The following statements relate to your perceptions of the benefits of the Air Traffic Controller Occupational Health (ATCOH) program. Using the scale shown below, please indicate the extent to which you agree or disagree with the following statements by circling the number on the scale that best approximates your answer.

1	2	3	4	5
Strongly Disagree (SD)	Disagree (D)	Not Applicable (NA)	Agree (A)	Strongly Agree (A)

A. **As a result of the programs and services of the ATCOH program, I believe that...**	SD	D	NA	A	SA
1. I am better informed about my health.	1	2	3	4	5
2. I feel less motivated to lead a healthier lifestyle.	1	2	3	4	5
3. I am <u>not</u> encouraged to continue leading a healthy lifestyle.	1	2	3	4	5
4. I better understand the relationship between my lifestyle and my health.	1	2	3	4	5
5. I have no desire to learn more about health issues.	1	2	3	4	5

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COMMENTS: _____

_____

B. **Impact of the ATCOH program.**	SD	D	NA	A	SA
1. I feel that I have more support from the other controllers to alter my lifestyle than I did prior to the ATCOH program.	1	2	3	4	5
2. The presence of ATCOH staff is a constant reminder that I have control over the decisions I make that affect my health.	1	2	3	4	5
3. I discuss health issues with my coworkers less frequently as a result of the ATCOH program.	1	2	3	4	5
4. My work is less flexible in terms of creating opportunities for healthy lifestyles.	1	2	3	4	5
5. The ATCOH program has influenced my workplace. Example: _____	1	2	3	4	5
6. The ATCOH program has <u>not</u> developed a work environment that is supportive of healthy lifestyles.	1	2	3	4	5

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COMMENTS: _____

_____

C. What lifestyle changes have ATCOH programs and services assisted you in making?	SD	D	NA	A	SA	For office use only
1. I have not implemented any of the healthy living tips into my own life.	1	2	3	4	5	
2. I have lost weight.	1	2	3	4	5	Col. 97 - 108
3. I have not made any changes to reduce my risk of disease.	1	2	3	4	5	
4. I have quit smoking.	1	2	3	4	5	
5. I smoke less than before.	1	2	3	4	5	
6. I have not changed any of my eating habits (eg. reduced sugar, fat, cholesterol and/or salt consumption).	1	2	3	4	5	
7. I am less active.	1	2	3	4	5	
8. I manage my stress more effectively.	1	2	3	4	5	
9. I have reduced my use of alcohol and/or drugs.	1	2	3	4	5	
10. I use more effective coping skills.	1	2	3	4	5	
11. I do not take better care of my back.	1	2	3	4	5	
12. I feel that I am less productive at work.	1	2	3	4	5	

OTHER: _____

_____

Section 4 - Program Information

The following section provides you with an opportunity to supply feedback and recommendations about the Air Traffic Control Occupational Health (ATCOH) program.

A. Please list up to three strengths of the Air Traffic Controller Occupational Health (ATCOH) program.

1.

2.

3.

B. Please list up to three weaknesses of the Air Traffic Controller Occupational Health (ATCOH) program.

1.

2.

3.

C. If you could make up to three changes or additions to the ATCOH program, what would they be?

1.

2.

3.

D. What additional programs, services or resources should ATCOH adopt?

1.

2.

3.

Section 5 - General Information

The following information is related to demographics. The data will only be used for demographic statistics, no individual information will be recorded or utilized.

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A. What is your **gender**? (Please check one)
- ___ [1] Female
- ___ [2] Male

B. What **year** were you born?

_____

C. What is the **highest level of education** you have completed? (Please check one)
- ___ [1] High school
- ___ [2] Post-secondary certificate
- ___ [3] College or Technical Institute diploma
- ___ [4] University degree

D. How much **work experience** do you have in the Air Traffic Control field? (Please check one)
- ___ [1] less than 1 year
- ___ [2] 1 - 5 years
- ___ [3] 6 - 10 years
- ___ [4] 11 - 15 years
- ___ [5] 16 years and over

E. What is your approximate **gross annual income**? (Please check one)
- ___ [1] $25 000 - $39 999/year
- ___ [2] $40 000 - $69 999/year
- ___ [3] $70 000 - $99 999/year
- ___ [4] $100 000 and over/year

F. Where do you work? (Please check one)
- ___ [1] ACC
- ___ [2] Tower or TCU

G. Please list any comments or concerns you have with any aspect of the Air Traffic Controller Occupational Health (ATCOH) program.

Thank you for completing this survey. Please mail the completed questionnaire in the enclosed envelope to:

IAES-EDM, Attention: Yvette Penman
Air Traffic Controller Occupational Health Program

by November 25, 1994. If you have comments or questions regarding this survey, please contact Yvette Penman at 436-9855.